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ABSTRACT

This directory is designed to assist local action groups (existing local alliances; science mathematics, and technology teachers; superintendents, principals, and supervisors; guidance counselors and resource specialists; and university and college professors) in making contact with the local structure of the Triangle Coalition for Science and Technology Education's national members. Each member organization is listed with a brief description of goals, kind of members, local structure, local and regional facilities, general commitment to precollege science education, typical resources shared, examples of activities supported, and protocol for personal contact. A special section includes entries for some of the local alliances affiliated with the Triangle Coalition. The introduction discusses how to use the directory; views from business and industry about contributing to education programs; principles for building and maintaining local alliances; and the main objectives of the Triangle Coalition. The member organizations are listed under the following categories: (1) Science and Engineering; (2) Business, Industry, and Labor; (3) Education; (4) Affiliated Organizations; and (5) Affiliated Local Alliances. An appendix contains a list of Triangle Coalition members and affiliates accurate as of July 22, 1991. (MDH)

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Triangle Coalition for Science and Technology Education

# MEMBER AND AFFILIATE
# CONTACT DIRECTORY

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## Second Edition

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## Appendix

List of Triangle Coalition members and affiliates (July 22, 1991)

# Introduction

As a complement to the Triangle Coalition's handbook on how to form local alliances, this directory is designed to assist local action groups in making contact with the local structure (people and resources) of the Triangle Coalition's national members.

Each member organization is listed with a brief description of goals, kind of member, local structure, local and regional facilities, general commitment to precollege science education, typical resources shared, examples of activities supported, and protocol for personal contact. As a new feature of this edition there is a section with entries for some of the local alliances affiliated with the Triangle Coalition.

The following passages suggest appropriate uses for this directory, advice on purposes and ways to most effectively use the information, strategies on how to approach these organizations for help and resources, and a summary of principles for building and maintaining local alliances.

## I. How to Use this Directory

This directory will be most useful in forming, maintaining, and expanding local collaborations and partnerships. However, precollege teachers, administrators, and counselors, as well as university and college professors concerned with science, mathematics and technology education will find a wealth of resources for improving their curriculum or administrative roles.

### Local Alliance Organizers

One of the initial activities of a local alliance organizer is that of identifying individuals who are interested in meeting to discuss the educational issues of a school system, region, or state. Many of the Triangle Coalition members can provide the alliance organizer with contact information for their members in a given locality. These local representatives may not be familiar with the alliance concept even though their national organization is a member of the Triangle Coalition. However, the Triangle Coalition national contact listed for each organization in this directory will, in most cases, understand the alliance mission and may be useful to the organizer in opening the local dialogue.

It is important to remember that individuals are recruited first. They, in turn, recruit the more broad involvement of a whole company or organization on the local level.

## Existing Local Alliances

Collaborations seeking to broaden their membership and program offerings will find a wealth of contacts and project ideas in this directory. It is important to note that one way to gain new partners, especially from business and industry, is to first involve them in the planning and implementation of a new program. This directory provides several corporate foundation contacts who are open to requests for program funding. In addition, several professional societies and education associations often have some funds available for specific purposes such as mini-grants for teachers. This directory is useful for those initiating programs that will involve considerable in-kind contributions in the form of personnel time for such projects as visiting scientist and other volunteer activities.

## Science, Mathematics, and Technology Teachers

This directory is especially useful to teachers who are searching for materials to enrich their classroom activities. Many organizations have worked hard to develop appropriate curriculum materials to supplement the day-to-day teaching at the elementary, middle, junior high, and secondary level. The sections on Areas of Interest/Available Resources can be particularly helpful to teachers, and many of these resources are cost-free.

## Superintendents, Principals, and Supervisors

Administrators interested in shaping an elementary science program, rebuilding their science curriculum, or finding resources to support teacher in-service programs will find a rich supply of assistance in this directory.

## Guidance Counselors and Resource Specialists

Many of the organizations have career information available to guidance counselors to stock career information centers and assist in their guidance activities with students and teachers.

## University and College Professors

Higher education professionals involved in pre- and in-service training of science and technology teachers will find a wealth of resource information. Those offering seminars and/or courses on identifying community resources or building business/school collaborations will find this directory especially appealing.

## II. Views from Business and Industry

Amoco Corporation is one of the largest corporate foundations contributing to elementary and secondary education. Pamela Barbara, executive director, Amoco Foundation has provided a set of descriptors for what Amoco looks for when deciding to fund programs that establish a working education collaboration. She also suggests ways to develop cooperative programs with industry, and describes how business would like to view itself in terms of educational improvement. Although several points in the following discussion may be unique to Amoco, this brief case study will help the users of this directory to understand the corporate giving philosophy, and appropriate protocol for seeking an alliance with business and industry.

The following material is extracted from a presentation given by Ms. Barbara at the Triangle Coalition's National/Local Action Conference on Improving Science and Technology Education. It describes what Amoco looks for in programs, which in turn describes who Amoco is. These questions are very important in establishing relationships.

### A. Qualities of Amoco Programs

#### Broad Impact

Amoco looks for cooperation that will impact on a large scale. It shies away from becoming involved with one school, and prefer to fund opportunities that address the system as a whole. Although adopt-a-school projects do not appeal to Amoco, a university project that impacts one-third of the high schools in a state does. Likewise, a mini-grant program for teachers may be helpful, but Amoco feels that more could be accomplished by giving funds to principals that reform science throughout their schools. However, this is Amoco's view, and many businesses have successfully targeted a single neighborhood, school, or problem. You must find out the priority from the funding agency yourself.

#### Serve as a Change Agent

Amoco looks for innovative ideas that will stimulate lasting solutions. In other words, Amoco would rather support a catalyst for the solution than a band-aid. For example, Amoco has contributed over $8.3 million to the University of Chicago School Mathematics Project to write a new math curriculum aimed at impacting the middle 80% of children in that state. Amoco has also been actively involved in legislatively mandating structural reform so that progress on the math and science fronts can more easily be made.

### Leverage or Networking

Preference is given to successful programs previously funded by Amoco. It has found this strategy to be the best way to make progress, especially in a large school system. Amoco's task is to determine how scholars, principals, and schools involved in previous programs can be used in new initiatives. For example, scholars from past Amoco programs are used to train parents in new projects and incentive funds are given to previously involved principals to develop new science programs in their schools. Amoco looks for this type of linkage in any type of new endeavor. However, Amoco does not mind being a risk-taker on new programs if this means additional new dollars can be leveraged from other sources. For example, support for a science enrichment project in Tulsa helped leverage a National Science Foundation grant to expand the program to all Tulsa schools.

### Transportability

Amoco looks for good ideas that can be tested in one city and transported to another. It has worked to export certain models by working with school officials in similar cities. For example, Amoco's field people recently became aware of a successful program in Chicago and presented the ideas to officials in Tulsa, Oklahoma and New Orleans, Louisiana. Meetings were then arranged between the interested parties. Likewise, upon visiting Tulsa, the staff became aware of a model program involving volunteers from an Amoco research center who help conduct science labs in the schools. This model has subsequently been introduced in Denver, Houston, and Chicago. In fact, Amoco will use their previously identified scholars to do the parent training.

## B. How to Develop Cooperative Programs with Industry

If you are a school or science organization wanting to develop a business partnership—via funding or in-kind help—what do you do?

### Philosophy

First, assess the philosophy of the funding agency. Know who you are dealing with. Amoco is a large, multi-national corporation and an energy company that represents a geographically broad constituency. The corporate offices are located in a handful of urban communities and these locations are an Amoco priority. Therefore, Amoco has a natural interest in mathematics, science, and minorities in urban areas—this focus is often available in annual reports, through other literature, or by contacting a program officer by telephone.

Study the size of the company. Do they have a public affairs department, a foundation, or are they relatively small with no obvious avenue for contact? Smaller companies will be harder to crack if there is no one who is responsible for building these relationships. Put yourself in the shoes of business. Why is it in their interest to become involved with you? Have they been involved before—with whom and in what capacity? Can you build on that psychologically or program-wise?

### The Achilles Heel

What issues will be impacting the corporation or business? Bring the issues home to them in a very personal way. For example, Amoco's interest in mathematics and science as a highly technical energy company is self-evident. However, Amoco's interest in minorities has much more to do with future changes in national demographics than goodwill. Amoco sees an increasingly larger percentage of minorities entering the work force. These individuals must be prepared to assume full participation in that work force. Amoco will need these individuals to fill their manpower needs. These are the kinds of issues that must be identified and brought to the attention of the company.

### Propose Some Ideas

Some companies may not have the personnel to develop ideas or become fully involved, yet if presented with concrete ideas, they may be more willing to become involved. Present several options to match their capacity for involvement.

### Be Persistent

Ideas that do not pay off now may come home to roost in the future. Amoco sees itself as an idea collector. It keeps good ideas in the back of its mind and calls upon them when the need arises. For example, Amoco gave a small grant to a teachers college and later approached the college to develop a $750,000 training program when Amoco became interested in upgrading in-service training for mathematics and science teachers. The point is to get your programs known. What is not a priority now to some businesses may become one in the future. Your idea becomes a resource from which to draw on in the future.

## C. How Business Would Like to See Itself

### Professionals

Amoco professionals like to see themselves as listeners and investigators—knowledgeable about the issues. However, some gaps exist between perception and reality. Many company representatives you deal with may not be attuned to the issues. Business needs to become informed to become involved. Educating business may be your first priority.

### Innovative

Innovation follows exposure. The more business becomes involved, the more innovative and proactive they can become. Amoco will often facilitate a solution rather than wait to react. Staff will see a problem and call together the people who can do something about it—then look for a contractor. Educators, scientists, and engineers need to bring business to an informed level.

### Active Participants

The Amoco Foundation program staff is actively involved in all of its precollege programs. They attend teacher training sessions, visit schools, and meet individually with principals and teachers. As a result, Amoco intimately knows these programs and is more involved.

The rule is to invite business to see your programs. Once they are involved, keep them involved. Let them see firsthand what is happening. Even if they can't always participate, ask or offer avenues in which they can get involved—even if only to talk.

Amoco professionals like to think that they have the above qualities to some extent, but all businesses are different and need individual approaches. It may take work on behalf of education/science to establish some business partnerships, but the potential benefit to both parties should be a motivator.

## III. Principles for Building and Maintaining Local Alliances

The following principles were developed by working group participants and leaders who attended regional conferences on local alliance building for science and technology education sponsored by the Triangle Coalition and hosting local alliances.

1. The key to success is PEOPLE. The resources of organizations are gained by first involving interested individuals who can internally muster an organization's support for an alliance.

2. STRUCTURE is necessary before an alliance can take solid form. You must have a critical mass of commitment with all the pieces in place before a collaboration can begin to sponsor projects. CLARITY of mission, goals, purpose, and methods is the mark of a lasting alliance.

3. MUTUALITY of partner needs and benefits must be firmly established and understood by all partners before alliance roles can be defined and common programmatic goals designed. Take the time to determine who does what best to gain a synergy of energy. EQUALITY of partners is central to the stability of the alliance. The aim in building an alliance is to increase the level of SHARED OWNERSHIP.

4. Alliances that work best have partners with a high degree of FLEXIBILITY and are able to listen and learn from each other before taking action.

5. Alliance organizers must become proficient in making a 5-minute PITCH to prospective partners. If you can't say it in 5 minutes, you probably don't know what you want to do.

6. You must have an evangelist who is able to commit a substantial amount of time to selling the notion of collaboration. The alliance must have a DIRECTOR that will dedicate him/herself for a minimum of 5 years.

7. An alliance must have a VISION to win a person's time and organization's commitment to organizing an alliance.

8. TEAM BUILDING is major activity of any collaboration involving schools, businesses, industry, higher education, professional organizations, research laboratories, governmental agencies, community groups, and individuals.

9. A SYSTEMS APPROACH to solving the problems of education is desired, rather than a component "fix."

10. Although a host organization may house the alliance during start-up, it is important that the alliance become INDEPENDENT of the host as soon as possible.

11. IN-KIND sharing of resources such as office space, printing, and staff is just as important as having cash contributions for a starting alliance. The sale of products such as activity-based science kits is a fiscally sound way to support an ongoing program.

12. During the initial phases of meeting with broad-based groups use a three-part process: 1) identify trends (THE WHAT?), 2) implications (THE SO WHAT?), and 3) mission (THE NOW WHAT?).

13. The first program of an alliance should be limited to ensure success. Select projects that are DOABLE. Programs result from needs, needs are not a result of programs. BUILD small and EXPAND on your successful projects. Always put successes up front.

14. An effective system of COMMUNICATION between all individuals and organizations is essential to an ongoing productive alliance.

15. The methods of ASSESSMENT/EVALUATION of an alliance and its programs must be built in from the beginning to maintain an alliance. For each alliance objective, a report should periodically be made. Business and foundations may stress quantitative evaluations, and teachers and educators may stress qualitative information as documentation of a project's success. Both are important.

16. FUNDING and CONTRIBUTIONS must be tax deductible for the giving organization. This suggests a 501(c)3 nonprofit alliance organization.

17. The corporate community should not be expected to carry both BUDGETS—programs and operations of an alliance.

18. FUNDERS must be active participants in the alliance; they must be involved in at least an advisory capacity.

19. Don't let programs get stale. All programs have to be REVITALIZED or the top level advisory staff will lose interest.

20. RECOGNITION of accomplishments for efforts by partners is important. Give credit and visibility to people and organizations when deserved and only take credit when deserved.

## IV. What is the Triangle Coalition About?

### A. Mission and Goals

The Triangle Coalition for Science and Technology Education is a consortium of over 100 national organizations representing business, industry, and labor; scientific and engineering societies, and education associations. The Triangle Coalition brings the ideas, influence, and resources of a large number of national groups together for the purpose of improving science and technology education for **all** students.

The triangular symbolism of the Coalition represents the joining together of member organizations from three broad sectors: education; science and engineering; business, industry, and labor. In addition, some federal agencies and local alliances are affiliated with the Coalition. The Triangle Coalition draws its strength from the long-term commitment of these diverse constituencies to science education.

The Triangle Coalition concentrates its efforts in three areas of action: communication, resource mobilization, and advocacy. In each action area it works to link and take advantage of the unique resources of the network of the local alliances and the national network of member organizations.

The Triangle Coalition members believe that if educational reform is to take place it must occur on the local level with broad community representation. The participants of the Wingspread meeting, "The Conference on Local Alliances for Science and Technology Education," in 1985, recommended that the Triangle Coalition write a "how to" handbook on forming local action groups, and identify and promote the formation of local alliances. The recently revised Triangle Coalition handbook on how to form a local alliance will be published early in 1991. In 1986, the Carnegie Corporation of New York funded a grant to form and work with a local action network for the improvement of science and technology education. The Coalition is currently in the second generation of this project, maintaining a clearinghouse of information on over a hundred local alliances, more than sixty of which have affiliated with the coalition.

## B. Programs and Projects

The following are current projects of the Triangle Coalition:

- Local Alliance Network: newsletter—*Triangle Coalition Network News (TCNN)*, handbook on how to form local alliances, directory—*Triangle Coalition Local Directory*, regional alliance building conferences, alliance consultant service, clearinghouse/database, computer teleconferencing network, and national/local action conference.

- Position Papers: *The Present Opportunity in Education, A Plan for Action*, and *Providing for the Future: The State of Science Education Reform in the Nation.*

- National School Volunteer Project in Science, Mathematics, and Technology Education: a pilot program which provides a cadre of scientists, engineers, mathematicians, and technicians to work as volunteers in local schools and assist teachers in a variety of training and enrichment activities.

- The Summer Industrial Fellowships for Teachers Project (SIFT/IISME), a pilot program in which the Triangle Coaltion works with local alliances and industries to establish two-month paid fellowships in industry for high school and middle school science and mathematics teachers.

- Future program directions include: career guidance collaboration, elementary science awards, and mini-grants for teachers.

### C. Membership and Finance

The Triangle Coalition was established in April of 1985. The Coalition is directed by Dr. John M. Fowler and operates through a small staff located in College Park, Maryland. In September, 1990 the Triangle Coalition became a non-profit organization with an independent 501(c)3 status.

The core operation of the Triangle Coalition—staff and office, task force and steering committee meetings—is supported by scaled assessments on member organizations. Specific projects are supported by external grants and contributions. The most current annual report can provide a breakdown of the income and expenses for that year. Budget information for the current year is available from the Triangle Coalition office.

### D. Chairpersons, Board of Directors, and Staff

Executive Committee: president and chairman of the board—J. Richard White; education—Jerry Skoog; business and industry—Pamela J. Barbara; science and engineering—Kenneth Chapman; and affiliated local alliances—Manert Kennedy.

Board of Directors: Pamela J. Barbara, Amoco Corporation; Joseph Blanding, United Auto Workers; Kenneth Chapman, American Chemical Society; Shirley Frye, National Council of Teachers of Mathematics; Lynn W. Glass, Iowa Alliance for Science Education; Richard J. Gowen, Institute of Electrical and Electronics Engineers; Logan E. Hargrove, Acoustical Society of America; Phyllis McGrath, General Electric Company; Manert Kennedy, Colorado Alliance for Science; Michael Lewellen, Southwestern Bell Telephone Company; Jerod Loeb, American Medical Association; Boyd D. Odom, Boyd D. Odom Professional Services; Walter Purdy, Edison Electric Institute; Gerald Skoog, National Science Teachers Association; Frederick Stein, former director of PRISM; J. Richard White, Merck and Company, Inc.; and Lea E. Williams, National Action Council for Minorities in Engineering.

Staff: John M. Fowler, executive director; Arthur Livermore, assistant to the director; Gary Allen, assistant to the director; Lauren Williams, associate director; Ronnie Lowenstein, project coordinator; Debbie Murray, administrative assistant; Holly Kathryn Larson, editor; Lori Kasamatsu, database coordinator; Vera Faulkner, project assistant; Judith K. Philippides, research assistant; and Judy Dillon, secretary.

### E. Mailing Address and Telephone

Triangle Coalition for Science and Technology Education
5112 Berwyn Road, 3rd Floor
College Park, Maryland 20740
(301) 220-0885

## Acoustical Society of America

500 Sunnyside Blvd.
Woodbury, NY 11797
(516) 349-7800

### Introduction

The Acoustical Society of America (ASA) was formed in 1929 for the purpose of increasing and diffusing the knowledge of acoustics and to promote its practical applications. It serves as a forum for discussion of current research as it relates to architecture, biology/medicine, music, noise, physics, psychology, the ocean, mechanical structures, and speech for its 6,000 members. Its membership is drawn from people doing research in acoustics and hearing.

### Local Structure

There are currently about 20 local chapters involved in their own educational initiatives.

### Areas of Interest/Available Resources

ASA has had a commitment to education for many years. In recent years, the Society has extended help in the precollege and public education areas. Examples include: sponsoring awards at the International Science and Engineering Fairs; providing guest speakers for citizens' groups, government, and schools; publishing a booklet *Acoustics and You* intended for the non-technical public; holding laboratory demonstration sessions at national meetings suitable for college and precollege science teachers; holding occasional sessions on communicating with non-technical audiences at national meetings; developing a proposal for the development, distribution, and support of precollege teaching aids; participating in a visiting scholar program which served the high school community; and reprinting classical textbooks on acoustics.

### Contact Arrangement

For further information or referral, the Acoustical Society recommends that inquiries be directed to the following person:

Joe Dickey
Acoustical Society of America
282 Cape St. John Road
Annapolis, MD 21401
(301) 267-2759

## American Astronomical Society

2000 Florida Avenue, N.W., Suite 300
Washington, DC 20009
(202) 328-2010

### Introduction

The American Astronomical Society (AAS) is the major organization of professional astronomers in the U.S., Canada, and Mexico. The basic objective of AAS is to promote the advancement of astronomy and closely related branches of science. The membership is approximately 4,800, which includes physicists, mathematicians, geologists, and engineers whose research interests lie within the broad spectrum of subject matter now comprising contemporary astronomy. Over two-thirds of the membership are found in universities with the remainder in government positions.

### Local Structure

AAS recommends calling the central office for referrals or further information.

### Areas of Interest/Available Resources

AAS has provided a variety of in-kind outreach assistance in the past. Members have served as visiting lecturers to universities, colleges, schools, and the public. The Society conducts approximately 80 visiting lectureships each year through which AAS members make visits to colleges that have little, if any, access to professional astronomers. Send for the brochure, *The Harlow Shapley Visiting Lectureships in Astronomy*, to make application. In addition, AAS publishes a career brochure called *Understanding the Universe: A Career in Astronomy*, available upon request. The Society also sponsors public lectures, films, planetarium shows, and workshops for high school teachers. The visiting lectureship and career brochure may be obtained by contacting the AAS education officer in Virginia at the address listed below.

### Contact Arrangement

For further information or referral, contact:

Peter B. Boyce
Executive Officer
(see above address)
(202) 328-2010

Mary Kay Hemenway, Ph.D.
Director
Astronomy Education Services
University of Texas
Department of Astronomy
Austin, TX 78712
(512) 471-1309

## American Chemical Society

1155 Sixteenth Street, N.W.
Washington, DC 20036
(202) 872-4600

### Introduction

The American Chemical Society (ACS) founded in 1876, is composed of more than 135,000 chemists and scientists in allied fields throughout the world. ACS members are found in the following professional settings: 61% industry, 22% universities, 9% government, 8% other, and 1% schools. Both education and science are central foundations for ACS goals and purposes. ACS goals are: to encourage the improvement of qualifications and usefulness of chemists through high standards of professional ethics, education, and attainments; to increase the diffusion of chemical knowledge; and to promote scientific interests and inquiry that foster public welfare and education.

### Local Structure

ACS has two structural components: 182 geographic units (local sections) and 32 subject matter divisions. The Division of Chemical Education is one of the more active divisions with 3,200 members conducting a variety of activities. The local sections and divisions are largely autonomous in conducting educational programs with local schools and colleges. A listing of local section and regional officers may be obtained by writing ACS Local Section Activities at the above address. The Division of Chemical Education can be contacted through Dr. John W. Moore, University of Wisconsin, Madison, WI 53706.

### Areas of Interest/Available Resources

The Education Division at ACS headquarters supports several programs in the areas of precollege, college/university, continuing education, and miscellaneous. Programs in the precollege area include career services (publications available), *Chemistry in the Community* (high school chemistry curriculum), *Science and Technology in Society* (high school chemistry curriculum), Chemistry Olympiad (national and international contests for high school students), *Chem Matters* (a quarterly news magazine for high school students), *Chemunity*, (high school newsletter), *Wonderscience* (activities for elementary children and adults), PACTS (minigrants for parental involvement in elementary science), Project Seed (summer research projects for economically disadvantaged high school students), and *Doing Chemistry* (videodisc resource for high school chemistry teacher workshops). ACS has also sponsored a study of chemistry

## American Chemical Society - continued

education in the U.S. and invitational conferences on elementary and undergraduate chemistry education. A *Catalog of Teaching Resources* is available upon request from the Education Division. ACS also publishes a directory of college chemistry faculty in the U.S., Canada, and Mexico. A complete listing and prices of publications are available upon request from the ACS Education Division.

### Contact Arrangement

For further information or referral, contact:

Kenneth Chapman
Special Assistant to Director
(see above address)
(202) 872-8734

## American Geological Institute

4220 King Street
Alexandria, VA 22302
(703) 379-2480
(800) 336-4764

### Introduction

The American Geological Institute (AGI) is a federation of professional associations serving geoscientists. The major goals of AGI are to provide information services to the geoscience community, to coordinate the improvement of earth science education, and to increase public awareness of the vital role geology plays in human interaction with the environment.

### Local Structure

AGI serves as an umbrella organization for its 20 member societies: American Association of Petroleum Geologists, American Association of Stratigraphic Palynologists, American Institute of Professional Geologists, Association for Women Geoscientists, Association of American State Geologists, Association of Earth Science Editors, Association of Engineering Geologists, Geological Society of America, Geoscience Information Society, Mineralogical Society of America, National Association of Geology Teachers, National Earth Science Teachers Association, National Speleological Society, Paleontological Society, Seismological Society of America, Society of Economic Geologists, Society of Economic Paleontologists and Mineralogists, Society of Independent Professional Earth Scientists, Society of Mining Engineers, and Society of Vertebrate Paleontology. Request the *Member Societies of the American Geological Institute* brochure for additional information on the member societies. AGI contributors include businesses and industries, geoscience departments at colleges and universities, and individuals.

### Areas of Interest/Available Resources

The AGI National Center for Earth Science Education (NCESE), provides the following resources: career and public information; standardized test for earth science (a national level exam for grades 9-12 that was developed in cooperation with the National Science Teachers Association); curriculum research and development (film series, dictionary, guidelines and text and textbooks); and Research Associate Program (precollege and college teachers). AGI has participated in outreach assistance in the past and is currently designing a new earth science precollege (K-12) framework. The AGI Minority Participation Program offers scholarships for ethnic minority students enrolled as geoscience majors in accredited institutions. AGI

## American Geological Institute - continued

publications include: *Geotimes* and *Earth Science*. (For a complete listing of publications ask for AGI Publications and Services).

**Contact Arrangement**

For further information or referral, contact:

Marvin Kauffman
Executive Director
(see above address)
(703) 379-2480

Andrew Verdon, Jr.
Director of Education
(see above address)
(703) 379-2480

# American Institute of Biological Sciences

730 11th Street, N.W.
Washington, DC 20001-4584
(202) 628-1500

## Introduction

The American Institute of Biological Sciences (AIBS) is a nonprofit umbrella organization for life scientists. AIBS is dedicated to the advancement of the biological sciences and their applications to human welfare and to fostering and encouraging research and education in the biological sciences, including medical, environmental, and agricultural sciences. The more than 70,000 members come from corporations, higher education institutions, research laboratories, professional societies (35), and other agencies such as zoos.

## Local Structure

AIBS provides a focus for biologists' common interests. The *AIBS Directory and Handbook with Committee Charges Member Society Officers* provides information on programs and listings of affiliated societies.

## Areas of Interest/Available Resources

AIBS education activities include several programs: publications, public responsibilities, and education. Many precollege activities are maintained through ties with the Biological Sciences Curriculum Study and National Association of Biology Teachers. Publications include: *BioScience* (monthly cross-disciplinary journal); *AIBS Forum* (bimonthly newsletter from the public responsibilities program; and *Careers in Biology* (brochure).

## Contact Arrangements

For further information or referral, contact:

Charles M. Chambers
Executive Director
(see above address)
(202) 628-1500

## American Institute of Physics

335 East 45th Street
New York, NY 10017
(212) 661-9404

### Introduction

The American Institute of Physics (AIP) is a not-for-profit membership corporation composed of leading societies in the fields of physics and astronomy. AIP serves as an umbrella organization for 10 scientific societies. More than 95,000 physicists are represented in addition to approximately 6,500 students, over 550 colleges and universities, and nearly 100 corporate associates. AIP serves as a disseminator of information as well as a database and publisher for its members.

### Local Structure

AIP member societies are: the American Physical Society, Optical Society of America, Acoustical Society of America, the Society of Rheology, American Association of Physics Teachers, American Crystallographic Association, American Astronomical Society, American Association of Physicists in Medicine, American Vacuum Society, the American Geophysical Union. AIP publishes a *Directory of Physics and Astronomy Staff* that geographically lists some 3,000 institutions and 31,000 AIP individuals. This directory can be ordered from AIP Publication Billing Division for $30.

### Areas of Interest/Available Resources

Although AIP maintains an education division, each member society should be contacted independently for resources. AIP does not provide funding assistance, but will refer inquiries to their member societies. Programs for K-12 science and technology education are currently under development by AIP. Local AIP physicists are accessible to teachers and students by ordering the *Speakers, Tours, and Films—A Program Resource for SPS Chapters* booklet at a cost of $15 from the National Office, Society of Physics Students at the above address. A current guide to publications can be obtained by contacting Department N/M at the above address. In addition, AIP Education and Employment Statistics Division is currently surveying over 3,500 national high school principals and physics teachers providing information on course offerings, teacher backgrounds, classroom activities, and professional development.

### Contact Arrangement

For further information or referral information, contact the following person at AIP headquarters:

## American Institute of Physics - continued

John S. Rigden
Director
Physics Programs Branch
(see above address)
(212) 661-9404

The following are the contacts for the AIP Member Societies (note that several of these groups are found elsewhere in this directory):

W. W. Havens, Jr.
Executive Secretary
The American Physical Society
335 East 45 Street
New York, NY 10017
(212) 661-9404

Jarus W. Quinn
Executive Director
Optical Society of America
1816 Jefferson Place, N.W.
Washington, DC 20036
(202) 223-8130

Murray Strasberg
Secretary
Acoustical Society of America
500 Sunnyside Blvd.
Woodbury, NY 11797
(516) 349-7800

D. G. Baird
Secretary
The Society of Rheology, Polymer
Materials and Interfaces Laboratory
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061-6496
(703) 961-5998

## American Medical Association

535 North Dearborn Street
Chicago, IL 60610
(312) 645-5000

### Introduction

The American Medical Association (AMA) strives to preserve the art and science of medicine and to protect the public health. The key objective of AMA activities is to contribute to the professionalism and personal development of member physicians and to the betterment of the public health. AMA develops and distributes information; advocates health-related rights, responsibilities, and issues; and represents the profession. The AMA has nearly 300,000 members.

### Local Structure

AMA members belong to state and county medical societies and, as appropriate, medical specialty societies. The AMA Auxiliary is composed of physician spouses and has approximately 80,000 members.

### Areas of Interest/Available Resources

AMA interests include medical education, graduate medical education, continuing medical education, allied health education, improving medical knowledge and practice, etc. The AMA publishes the *Journal of the American Medical Association* and nine specialty medical journals.

The AMA has designed a series of efforts to increase interest in scientific issues. Members of the Young Physicians Section volunteer to discuss the importance of science in the daily lives of elementary and secondary school students as part of the Natural Science Ambassadors Project, underway in several communities. Through examples and discussion, these physicians show that science is not dogmatic and dry, but rather an interesting, exciting, and rewarding endeavor. Not designed specifically to lure youngsters into medical careers, the program offers a broad-based perspective of science that highlights all of the disciplines.

The Resident Physicians Section is developing a program in which resident physicians talk with high school and college students and counselors about reasons for their choice of a medical career. These physicians explain the intellectual and social challenges of modern medicine, the satisfaction of helping people, and the strong dependence of medicine upon science and technology.

## American Medical Association - continued

The Medical Student Section encourages students in medical schools around the country to work with school teachers and administrators to enhance the knowledge of children about AIDS and HIV transmission. More than half of the medical schools in the country are participating in this program. The Department of Adolescent Health is involved in a series of efforts related to the promotion of healthy lifestyles for adolescents. The Department is currently exploring mechanisms by which physicians can play a prominent role in fostering the development of a more nurturing atmosphere for children in our society.

### Contact Arrangement

For further information or referral, contact:

Jerod M. Loeb
Assistant Vice President for Science and Technology
(see above address)
(312) 645-5456

## American Nuclear Society

555 North Kensington Avenue
La Grange Park, IL 60525
(708) 352-6611

### Introduction

The American Nuclear Society (ANS) is a nonprofit, international organization of engineers, managers, scientists, and technicians. Current membership exceeds 15,000. ANS members are found in academia (5%), industry (64%), government and national laboratories (18%), university students (1%), and others (12%). The main objectives of ANS are the advancement of engineering and science relating to the nuclear power industry and the integration of the science and management disciplines constituting nuclear science and technology.

### Local Structure

ANS has 59 local sections and 54 college-associated student branches. ANS has a free *Directory of ANS Local Section Chairs and ANS Student Branches*, which lists sectional and branch resource contact persons, or inquiries can be made to the national office at the above address. There are approximately 120 local sections and student branches, mostly located in the U.S. Anyone interested in a specific location should contact ANS headquarters for local information contacts. In addition, ANS has an education and training division (one of 18 divisions), which conducts activities at the university level and above.

### Areas of Interest/Available Resources

ANS as a whole is heavily involved in preparing nuclear science (for beneficial uses) curiculum materials, and in offering workshops for educators to learn how to effectively teach this subject matter. ANS local sections are involved in public information activities, such as speakers bureaus, displays, teacher award programs, and teacher workshops (middle and high school teachers). ANS publications include: free,*Class Projects on Nuclear Technology, Sets I and II* (grades 6-12); *re-actions* (free teacher newsletter); *Just How Do We Make Electricity?* (grades K-4 activities and an on-loan videotape); *Energy from the Atom* (grades 5-6)—$2.50; free brochure, *Nuclear Technology Creates Careers* (grades 6-12); free *Nuclear Science Curriculum Outline* (high school); *The Atom and Society* (high school social studies)—$2.75; "Public Information Publications" (complete free listing of materials); and a free *Annual Report: The ANS Public Education Program.* The Public Communications Department offers a listing of available free-loan audiovisual lending library (K-adult) films, videotapes, slide presentations, curriculum guides, and computer quizzes. ANS is also affiliated with the American Nuclear

## American Nuclear Society - continued

Science Teachers Association (high school teachers). The two groups work jointly on preparing curriculum materials, and reviewing existing and planned commercial textbooks for accuracy.

### Contact Arrangements

For further information or referral, contact:

Darlene C. Schmidt
Manager, Educational Outreach Programs
(see above address)
(708) 352-6611

## American Physical Society

335 East 45th Street
New York, NY 10017
(212) 682-7341

### Introduction

The American Physical Society (APS) is a nonprofit scientific and educational organization with over 38,000 members. Its purpose is the advancement and diffusion of the knowledge of physics. APS members are university faculty (about 50%), government laboratory workers (25%), and industry employees (25%). APS is the largest of the member societies of the American Institute of Physics (AIP). APS is divided into three main organizational structures: divisions which focus on broad subfields of physics, topical groups which focus on more specialized subject matter, and regional sections, ranging from single to several states, which focus on localized members' interests.

### Local Structure

APS has sections (New England, Ohio, Texas, southeastern, New York state, and international sections), divisions, and topical groups that serve member interests. APS cooperates on special projects with the AIP, its member societies, and, on matters related to education, with the American Association of Physics Teachers (AAPT). APS divisions are astrophysics, atomic physics, molecular physics, optical physics, biological physics, chemical physics, condensed matter physics, fluid dynamics, forum on physics and society, high polymer physics, history of physics, nuclear physics particles and fields, and plasma physics. APS publishes a membership directory biennially.

### Areas of Interest/Available Resources

APS has an active committee on education, which promotes many programs in physics education. APS operates regional and divisional meetings as well as three general meetings during the year. The details of the meetings and abstracts of papers to be presented are published in the *Bulletin of the American Physical Society*. Some of the general and divisional meetings include a special high school physics teacher's day. The College High School Interaction Committee (CHIC) is a joint committee of APS and AAPT that supports projects such as the local physics alliances. The local physics alliances project offers a practical, inexpensive, and effective mechanism for intellectual stimulation and professional growth to teachers of physics from elementary school through college. A local physics alliance is a group of school and college instructors who meet every month or two to share their physics knowledge and the challenges of teaching physics. Often they engage local business and industry in their efforts, as well as school and university officials. CHIC promotes

## American Physical Society - continued

closer cooperation among teachers of physics at all levels and increases interchange among the physics teaching and research communities. Most APS assistance is in-kind.

Among APS publications are: *CHIC Newsletter* (high school and college physics educators); *Local Physics Alliances* (descriptive brochure); *Physical Review Letters* (weekly reports on important discoveries and topics of current interest); *The Physical Review*; and *Reviews of Modern Physics*. APS recommends contacting them for information.

**Contact Arrangement**

For further information or referral, contact:

Brian Schwartz
Education Officer
(see above address)
(212) 682-7341

Charlene Borsack
Administrative Assistant
(see above address)
(212) 682-7341

Additional contacts include:

John Russell
Physics Department
Southeastern Massachusetts University
North Dartmouth, MA 02747
(617) 999-8355

Peter Lindenfeld
Physics Department
Rutgers University
P.O. Box 849
Piscataway, NJ 08854
(201) 932-2536

## American Society for Microbiology

1325 Massachusetts Avenue, N.W.
Washington, DC 20005
(202) 737-3600

### Introduction

The American Society for Microbiology (ASM) has an active membership of over 34,000 individuals and is the largest single life science society in the world. ASM members contribute to the fundamental areas of environmental microbiology, genetics, host-parasite interaction, immunology, microbial physiology, molecular biology, mycology, oncology, and virology, as well as to the applied fields of agricultural microbiology, clinical microbiology, ecological microbiology, epidemiology, food technology, industrial fermentation process, and infectious diseases. Society members work in academic, governmental, industrial, and private offices and laboratories throughout the U.S. and elsewhere in the world.

### Local Structure

ASM has 22 microbiology divisions and 36 local branches whose boundaries range from individual cities to portions of states, to states, to groups of states. Each local branch has an education representative. A directory of local branches is available from the Society's membership office.

### Areas of Interest/Available Resources

The Board of Education and Training Committee on Precollege Education provides programs, materials, and services for precollege students and teachers. Committee activities include workshops for science teachers; teaching material exchange and presentations at the annual meeting; a listing of vendors and suppliers which provide science education materials; reviews of print, audiovisual and electronic materials; science fair awards; and career guidance. The Committee also provides a listing of colleges and universities granting degrees in the microbiological sciences and a listing of curriculum for undergraduate microbiology education. Career posters are available for middle school and high school audiences, as well as a career booklet for high school and undergraduate student. Lastly, the Committee reports on science education issues and policies.

## American Society for Microbiology - continued

### Contact Arrangement

For further information or referral, contact:

Portia Clare
Administrative Secretary
Office of Education and Training
(see address above)
(202) 737-3600

**American Society of Mechanical Engineers**
345 East 47th Street
New York, NY 10017
(212) 706-7066

## Introduction

The American Society of Mechanical Engineers (ASME) is an educational and technical society with over 120,000 members, including more than 20,000 student members attending colleges and universities. A major objective of the Society is to promote the arts and sciences related to mechanical engineering. The majority of members are employed in industry or work for government agencies.

## Local Structure

ASME has 196 local sections, subsections, and groups which are served by five regional offices equipped to provide information and materials about ASME's programs, structure, and personnel. Members participate in the programs of 35 divisions and 8 technical groups. ASME education activities are usually conducted through the local sections. The booklet MM-2, *The American Society of Mechanical Engineers Organization/Activities*, lists local sections by regions and describes ASME activities.

## Areas of Interest/ Available Resources

ASME acknowledges a professional responsibility to improve science, mathematics, and technology education for all students. Its Council on Education directs ASME precollege support towards K-12 career guidance. Among others, ASMR career materials include: two booklets, *Meeting the Challenges of Today and Tomorrow: Mechanical Engineering Technology* and *Mechanical Engineering - A Career for the Future*, and two flyers, "Mechanical Engineering," and "Mechanical Engineering Technology." ASME's most widely used career film/video for junior high students and younger, "It's Not Too Late," is available through the regional offices. Another film aimed at high school seniors, "You and Me," is also available through the regional offices.

ASME's main contribution and role is through referral to the network of local sections to provide films, printed material, and recommend members as speakers and resource people. ASME can provide an avenue to disseminate information to their local units.

## American Society of Mechanical Engineers - continued

### Contact Arrangement

For further information or referral, contact:

James A. David
Managing Director, Education
(see above address)
(212) 705-7375

Administrator, Education
(see above address)
(212) 705-7058

ASME, in addition to headquarters, operates five regional offices equipped to provide information and materials about programs, structure, and personnel.

**Eastern Regional Office**
ASME
Suite L102
8996 Burke Lake Road
Burke, VA 22051
(703) 978-5000
(704) 978-1157 (FAX)

**Northeastern Regional Office**
ASME
14 Fairfield Drive
P.O. Box 407
Brookfield Center,CT 06805
(203) 775-3733
(203) 740-9824 (FAX)

**Southern Regional Office**
ASME
Suite 5037C
1950 Stemmons Freeway
Dallas, TX 75207
(214) 746-4900
(214) 746-4902 (FAX)

**Western Regional Office**
ASME
Suite 137
21 Tamal Vista Boulevard
Corte Madera, CA 94925
(415) 927-2020
(415) 927-1001 (FAX)

**Midwest Regional Office**
ASME
Suite 108
17 North Elmhurst Avenue
Mt. Prospect, IL 60056
(312) 392-8876
(312) 392-9901 (FAX)

## Federation of American Societies for Experimental Biology

9650 Rockville Pike
Bethesda, MD 20814
(301) 530-700

### Introduction

The Federation of American Societies for Experimental Biology (FASEB) is a consortium of seven scientific societies that brings together investigators in biological and medical sciences, disseminates information on the results of biological research through publications and scientific meetings, and serves in other capacities in which the member societies can function more efficiently as a group. Member societies are: the American Physiological Society, American Society of Biological Chemists, American Society for Pharmacology and Experimental Therapeutics, American Association of Pathologists, American Institute of Nutrition, the American Association of Immunologists, and the American Society for Cell Biology. FASEB societies have a total membership of over 29,000 and are drawn from research, educational, and clinical centers.

### Local Structure

FASEB societies have education committees and encourage the precollege education activities of its member societies. FASEB participation is generally in-kind support.

### Areas of Interest/Available Resources

Publications: *Strategies for Increasing Involvement of Research Scientists in Implementation of Innovative Science Education Programs, Phase I and Phase II*; *The Federation Directory of Members* lists members of the associated organizations. Order publications from the above address or call (301) 530-7026.

### Contact Arrangement

For further information or referral, contact:

Kenneth D. Fisher
Director, Life Sciences Research Office
(see above address)
(301) 530-7030

## Federation of American Societies for Experimental Biology - continued

David Scott
Chairman of the Education Committee
Department of Microbiology and Immunology
University of Rochester School of Medicine
Box 704, 601 Elmwood Avenue
Rochester, NY 14642
(716) 275-8281

## Institute of Electrical and Electronics Engineers

1828 L Street N.W., Suite 1202
Washington, DC 20036-5104
(202) 785-0017

### Introduction

The Institute of Electrical and Electronics Engineers (IEEE) is the world's largest technical professional organization, with 293,000 members in more than 130 countries, including 235,000 in the U.S. IEEE encompasses 36 societies and councils in virtually all areas of electrotechnology, including aerospace, computers communications, biomedicine, electric power, and consumer electronics. The IEEE U.S. activities board evaluates the professional, economic, and socio-technical concerns of the membership and, when appropriate, conveys these concerns to the public, to industry, and to the government.

### Local Structure

IEEE in the U.S. is divided into six geographic regions. Each region has a coordinator for precollege education activities. The regions are subdivided into sections. At the section level, Professional Activities (PACE) Committees oversee precollege education activities. These include: volunteer collaboration with local alliances, science fairs, student competitions, career days, etc.

### Areas of Interest/Available Resources

The IEEE Precollege Education Committee was formed to effect improvements in the quality of precollege education for all students, both college-bound and noncollege-bound. The committee's work is done primarily through actions by IEEE members in concert with members of other concerned technical and nontechnical societies.

The committee has published three special issues of the leadership magazine *Impact* on the need for improvements in precollege mathematics and science education. In 1986 it produced a slide/tape show, "Education: The Key to America's Future" to increase public awareness of existing problems. Copies of the show were sent to IEEE sections and made available on loan to volunteer service organizations, civic groups, and others.

In 1988 the committee published an election-year brochure, *Education '88*, to help IEEE members and the general public understand the current state of education. The brochure enabled readers to formulate their own vision of what needs to be done and to evaluate candidates' positions on education.

## Institute of Electrical and Electronics Engineers - continued

In 1989 the committee produced a videotape, "A Passport to Opportunity." The tape reinforces the message of the earlier slide/tape show and describes some sucessful efforts at improvement. Copies are available on loan to IEEE sections and the general public. The committee also produced a brochure as a companion to the videotape, outlining things that scientists, engineers, and others can do to assist in bringing about needed changes.

At the community level, many IEEE sections support precollege student activities, such as science fairs, competitions, and other events designed to spark children's natural curiosity about science and to instill in them an ongoing interest in mastering the basics. Sections frequently make a special effort during National Engineers' Week each February to inform school children about the contributions that have been made to society and to encourage them to study math and science in preparation for joining the future work force.

### Contact Arrangement

For further information or referral, contact:

Ann Hartfiel
Manager, Member Activities Council
(see above address)
(202) 785-0017

## Junior Engineering Technical Society, Inc.

1420 King Street, Suite 405
Alexandria, VA 22314-2715
(703) 548-JETS

### Introduction

The Junior Engineering Technical Society, Inc. (JETS) is a nationwide organization for precollege students interested in engineering, technology, mathematics, and science. JETS is dedicated to raising the level of technological literacy—assisting students to excel in their academic studies, demonstrating how technical knowledge applies to real problem solving, informing students of career opportunities, and providing contact with practicing engineers.

### Local Structure

JETS has more than 300 chapters whose members are usually drawn from interested students in the top half of their high school classes. JETS does not publish a formal directory of local chapters, but recommends writing to the national office for the proper contact procedure. For those interested in integrating chapter activities in existing school programs, a specially priced chapter materials package is available by writing the national office.

### Areas of Interest/Available Resources

JETS activities include: TEAMS (Tests of Engineering Aptitude, Math and Science—an academic competition within subject areas); NEAS, National Engineering Aptitude Search (a guidance and counseling tool for evaluating aptitude for engineering studies); engineering design contests; *JETS Report* (newsletter articles on careers, computers, activities, etc.); and career guidance publications. A complete listing of career-related and other publications is available by writing to the JETS at the above address.

### Contact Arrangements

For further information or referral, contact:

Daniel Kunz
Executive Director
(see above address)
(703) 548-5387

Cathy McGowan
Assistant Director
(see above address)
(703) 548-5387

## National Association of Academies of Science

445 King Avenue
Columbus, OH 43201
(614) 424-6045

### Information

The National Association of Academies of Science (NAAS) is a non-profit alliance of science academies affiliated with the American Association for the Advancement of Science (AAAS). NAAS serves as a common meeting ground for consultation and investigation of the problems of the 44 member academies. NAAS promotes the aims and purposes of member academies and of the AAAS.

### Local Structure

The NAAS *Proceedings, Directory and Handbook* provides the most up-to-date information on officers, programs, activities, and publications of each member academy. It is also a record of the Association's annual meeting, including special symposia. Direct inquiries on particular programs to the member academy.

### Areas of Interest/Available Resources

NAAS sponsors the national meeting of the American Junior Academy of Science that enables youth delegates (high school students) to present papers, meet eminent scientists, and attend workshops and tours. The *Proceedings, Directory and Handbook* of the National Association of Academies of Science is available from the Archivist, Ohio Academy of Science, 445 King Ave., Columbus, OH 43201.

### Contact Arrangement

For further information or referral, contact:

Ertle Thompson
University of Virginia
Ruffner Hall, 405 Emmet Street
Charlottesville, VA 22903
(804) 924-0840

## National Institute of Electromedical Information

P.O. Box 4633
Bay Terrace, NY 11360-4633
(718) 591-2129

### Introduction

The National Institute of Electromedical Information, Inc. (NIEI) is a nonprofit foundation founded in 1984 to improve the quality of health care by disseminating information in the field of electromedicine to clinicians, researchers, and the general public. This is accomplished through their publications, seminars, workshops, and conventions. NIEI provides continuing education in the field of electromedicine, develops networks between its membership and other organizations, and provides a forum for communication among health care practitioners and researchers currently employing electromedical devices as preventative, diagnostic, therapeutic and/or research tools in their work. NIEI has a membership of 1,200 which includes health care practitioners, medical educators, research scientists and manufacturers of electromedical devices.

### Local Structure

The foundation is housed at the above address. NIEI is a part of the Alliance for Engineering in Medicine and Biology as well as the National Health Council.

### Areas of Interest/Available Resources

In order to keep abreast of the latest electromedical technology, NIEI works closely on an international level with prominent universities, distinguished physicians and scientists, organizations, and leaders in industry. NIEI publishes the *American Journal of Electromedicine* which is now included in *Medical Electronics*, six times a year. The journals' specific intentions are to bring together information about the nature and mechanisms of electrical phenomena and their application for the diagnosis and treatment of various medical problems, with the goal of enhancing the level of understanding and knowledge of technological advances incorporated into electromedical devices. NIEI also publishes other newsletters, and program reports from seminars, workshops, and conventions.

The interest of NIEI in education is to provide for continuing medical education including providing opportunities for earning more advanced degrees in the field of electromedicine. NIEI has also sponsored programs at the precollege level, such as the genetic engineering and the emergency medical technician courses offered at the Frances Lewis High School in Queens, NY.

## National Institute of Electromedical Information - continued

### Contact Arrangement

For further information or referral, contact:

Stanley H. Kornhauser
Executive Director
(see above address)
(718) 591-2129

## The National Technical Association

P.O. Box 27787
Washington, DC 20038-7787
(202) 829-6100

### Introduction

The National Technical Association (NTA) is comprised of black and minority engineers and scientists dedicated to increasing the interest in technical fields among all minority groups. The general membership is over 1,000 and is representative of government, industry, private business, and the educational sector. There is also a student organization, the SNTA, open to students enrolled in science and technology fields. NTA goals are: to provide technical interchange among minorities, to disseminate career opportunity information to minorities, to motivate minority youth towards pursuing technical careers, to break down barriers to minorities entering the technical professions, and to encourage and assist minority students, professionals, and institutions in the areas of scholarship and technical excellence.

### Local Structure

NTA has two structural components: 45 professional chapters and 25 student chapters. Each chapter is affiliated with the national organization. Chapters operate largely autonomously with local schools and industries. A listing of local chapters can be obtained by writing to the national office at the above address, to the attention of Dr. Mildred Fitzgerald-Johnson, executive director.

### Areas of Interest/Available Resources

NTA sponsors projects to encourage youth to pursue the science and technology fields. There are several national/chapter-sponsored projects such as student symposiums, national conferences, and the National Science Competition (NSC). These provide the opportunity for youth to develop technical papers and projects to present to their peers and other professionals. The national conference is open for members and other participants to present technical information on projects and research that is currently underway. There are also chapter, professional, and student development segments. The NSC provides students in grades 7-12 with opportunities to develop science projects and receive recognition for them. Monetary and travel awards are granted to winners of the NSC. The Career Awareness Program (CAP) is conducted in the Cleveland (OH) area to encourage parents, teachers, and school guidance counselors to focus their energies on increasing the technical skills of students. Students receive tutoring in math and science and are coached in developing science projects. The *Journal of the National Technical*

## The National Technical Association - continued

*Association* is the national publication which provides technical summaries and research, as well as career opportunity information. The NTA video, "The Call," describes career opportunities in the energy fields and is available for purchase from NTA for career programs. Additional information can be requested on any of the above programs from the national office.

### Contact Arrangement

For further information or referral, contact:

Mildred Fitzgerald-Johnson
Executive Director
(see above address)
(202) 829-6100

## Aerospace Industries Association of America, Inc.

1250 Eye Street, N.W.
Washington, DC 20005
(202) 371-8400

### Introduction

The Aerospace Industries Association of America, Inc. (AIA) is a non-profit trade association representing the nation's manufacturers of commercial, military, and business aircraft; helicopters; aircraft engines; missiles; spacecraft; and related components and equipment. AIA has 57 member companies across the U.S. The U.S. aerospace industry employs approximately 1.3 millon people.

### Local Structure

AIA member companies include:

Aerojet (a segment of GenCorp); Aeronca, Inc. (a fleet aerospace company); Allied-Signal Aerospace Company; Aluminum Company of America; American Pacific Corporation; Argo-Tech Corporation; BASF Structural Materials, Inc.; Bechtel National, Inc.; Best Foam Fabricators, Inc.; B.H. Aircraft Company, Inc.; the Boeing Company; Chrysler Technologies Corporation; Coltec Industries Inc. (Chandler Evans and Menasco Aerosystems); Dowty Aerospace Los Angeles; E-Systems, Inc.; Fairchild Industries, Inc.; Ferranti Defense & Space Inc. (Marquardt); FMC Corporation; GEC-Marconi Electronic Systems Corporation; General Dynamics Corporation; General Electric Company; General Motors Corporation (General Motors Hughes Electronics, Delco Electronics, Hughes Aircraft Company and Allison Gas Turbine Division); the BF Goodrich Company (Aircraft Wheels and Brakes, Engine and Fuel Systems, Instruments and Avionics, Maintenance Repair and Overhaul, and Specialty Products); Grumman Corporation; Gulfstream Aerospace Corporation; Harris Corporation; Heath Tecna Aerospace Company; HEICO Corporation; Hercules Incorporated; Hexcel Corporation; Honeywell, Inc.; IBM Corporation (Federal Sector Division); ITT Defense, Inc.; Kaman Aerospace Corporation; Lockheed Corporation; Lord Corporation; the LTV Corporation; Lucas Aerospace Inc.; Martin Marietta Corporation; McDonnell Douglas Corporation; Northrop Corporation; Ontario Corporation; Parker Hannifin Corporation; Precision Castparts Corporation; Raytheon Company; Rockwell International Corporation; Rohr Industries, Inc.; Smiths Industries Aerospace and Defense Systems, Inc.; Sundstrand Corporation; Teledyne, Inc. (Teledyne Brown Engineering and Teledyne Control); Texas Instruments Incorporated (Defense Systems & Electronics Group); Textron Inc.; Thiokol Corporation; TRW Inc.; United Technologies Corporation-Aerospace/Defense: (Pratt & Whitney, Sikorsky, Hamilton Standard, and Norden); Westinghouse

## Aerospace Industries Association of America, Inc. - continued

Electric Corporation (Electronics Systems Group); and Williams International.

### Areas of Interest/Available Resources

The AIA board of governors has identified education as a priority issue. The aerospace industry requires a highly skilled workforce and to ensure its future reserve of qualified young people, many AIA companies have committed their support to educational programs. This support takes diverse, innovative shapes, such as financial grants, use of facilities, "adopt-a-school" programs, employees participating as volunteer tutors, and reimbursement of employee education-related expenses. Be they community-oriented or national in scope, these programs are often cooperative efforts among industry, school districts, and universities. The programs address the increasingly critical shortfall of graduating scientists and engineers and the growing numbers of minority groups and women entering the workforce.

AIA publications include: the *AIA Newsletter*, which includes highlights of member company involvement in education; the *1990 AIA Annual Report;* and the *1990-91 AIA Member Company Product Directory*, which lists aerospace products and major manufacturing locations. The *1991-92 Directory of Member Company Public Information Representatives* identifies public information sources at all AIA member company headquarters and key divisions who can provide information on individual company programs.

### Contact Arrangement

For further information or referral, contact:

Alison J. Duquette
Manager, Member Relations
(see above address)
(202) 371-8545

## Air Products and Chemicals, Inc.

7201 Hamilton Blvd.
Allentown, PA 18195-1501
(215) 481-8079

### Introduction

Air Products and Chemicals, Inc. (APCI) is an international supplier of industrial gases, chemicals, process equipment, and related technology. APCI employs nearly 14,000 people worldwide.

### Local Structure

APCI facilities, subsidiaries, and joint ventures are located in communities throughout the U.S. including 12 chemical plants, 32 air separation facilities, numerous co-generation incinerator projects, and sales offices.

### Areas of Interest/Available Resources

Headquarters community relations activities improve and enhance the quality of life in the Lehigh Valley and support company recruitment efforts. APCI headquarters offers a variety of educational services for surrounding school districts, such as the Franklin Institute Traveling Science Show, Career Day speakers, ASSIST—Aid to School Students Interested in Science and Technology Program (donations of science equipment), Exploring Programs (student first-hand observations of engineering and other occupations), Challenge for Success (minority engineering program for incoming university students), Air Products Science Award Program, Science Screen Award (science and technology films made available to high schools), liquid nitrogen demonstrations, Shadow Program (teachers and students observe work in the corporate setting), Aquatic Ecology Curriculum Development Project, and School Works Concept (business and education partnership).

Field community relations activities are established in large part by the facility manager at each plant location and vary from site to site depending on various factors, such as plant location, to surrounding communities, population of facility, and community needs. Where field locations have the human and financial resources available, activities may include: educational partnerships with school districts, career awareness, tours of plants, speakers, science awards, and technical expertise, equipment loans, and resources for science presentations. Proposals requesting funding are reviewed throughout the year and should be submitted to the contact.

## Air Products and Chemicals, Inc. - continued

### Contact Arrangement

For further information or referral, contact:

Pam Handwerk
Manager, Community Relations/Philanthropy
(see above address)
(215) 481-8079

## Alcoa Foundation

Alcoa Building
Pittsburgh, PA 15219
(412) 553-4696

### Introduction

Alcoa is the world's largest producer of fabricated aluminum products used primarily by packaging, transportation, building, and industrial customers worldwide. In addition, the company produces alumina, primary aluminum, and a variety of finished products, components, and systems for a multitude of industrial applications. Nearly 30,000 people are employed by Alcoa in the U.S., and another 25,000 people are employed by Alcoa and affiliates in North and South America, Europe, Australia, Asia, and Africa.

### Local Structure

Alcoa's domestic facilities are found in: Bauxite, AR; Corona and Vernon, CA; Ft. Meade, FL; Evansville, Lafayette, and Richmond, IN; Davenport, IA; Vidalia, LA; Badin, NC; Massena, NY; Cleveland, OH; Lebanon, PA; Alcoa, TN; Point Comfort and Rockdale, TX; and Wenatchee, WA.

### Areas of Interest/Available Resources

Alcoa Foundation was established to help communities in which Alcoa operates both in the U.S. and abroad. The Foundation supports a wide variety of endeavors that contribute to improving education, health, welfare and overall quality of life. Since it was founded in 1952, Alcoa Foundation has considered support of quality education to be a prime objective. About half of the total grant money is still used for that purpose. Alcoa Foundation has a relatively new focus for the investment of its dollars, and is seeking out programs which provide initiatives for students, a means of educating the educators, innovative methods of teaching, and help for educationally disadvantaged and at-risk students. This concept manifests itself in numerous approaches at the precollege level, including mini-grants, Mathcounts, economic education, science programs, achievement recognition, minority programs, counseling, and curriculum development.

Appeals for grants are received on a continuing basis. Due to the nature of Alcoa's business, and the fact that the Foundation contributes to organizations all over the country, recommendations from local Alcoa personnel are important in determining awards. Alcoa Foundation's annual report and guidelines for grant application are available from the above address.

## Alcoa Foundation - continued

### Contact Arrangement

For further information or referral, contact:

Donna M. Schubert
Program Assistant
Educational Grants
(see above address)
(412) 553-4696

## Amoco Corporation

200 East Randolph Drive
Chicago, IL 60601
(312) 856-6111

### Introduction

Amoco Corporation (Amoco), formerly Standard Oil Company of Indiana, is a holding company that includes: Amoco Production Company, which explores for and produces crude oil and natural gas; Amoco Oil Company, which manufactures, transports and markets petroleum products; and Amoco Chemical Company. Amoco has plants located across the country and around the world and employs nearly 47,000 people.

### Local Structure

Major Amoco locations by type of facility are: 1) **Amoco oil districts:** Atlanta; Baltimore; Detroit; Ft. Lauderdale; New Haven, CT; Philadelphia; St. Louis; Minneapolis; 2) **refineries:** Casper, WY; Mandan, ND; Salt Lake City, UT; Savannah, GA; Texas City, TX; Whiting, IN; Yorktown, VA; 3) **Amoco production regional offices:** Houston, Denver; 4) **research facilities:** Naperville, IL; Tulsa, OK; Atlanta, GA; 5) **chemical manufacturing plants:** Decatur, AL; Torrance, CA; Joliet, IL; Willow Springs, IL; Mount Pleasant, SC; Alvin, TX; Mont Belvieu, TX, Texas City, TX; 6) **Amoco Fabric and Fiber Company:** Atlanta, GA; 7) **Amoco Fabric and Fiber mills:** Afton, VA; Andalusia, AL; Bainbridge, GA; Dalton, GA; Hazlehurst, GA; Nashville, GA; Roanoke, AL; Salisbury, NC; 8) **Amoco Foam Products Company:** Atlanta, GA; 9) **Amoco Foam Products plants:** Augusta, GA; Beech Island, SC; Chippewa Falls, WI; Fresno, CA; Greensboro, NC; LaMirada, CA; Malvern, AR; Oelwein, IA; Winchester, VA; Yakima, WA.

### Areas of Interest/Available Resources

Although the largest portion of the Amoco budget continues to be allotted to higher education, it has expanded its education support to elementary and secondary science. Amoco programs are designed to increase the supply of qualified students capable of science and engineering careers. Amoco has participated in various outreach programs in the past with a major emphasis placed on minority programs and precollege education, particularly in the areas of math and science in urban schools. Amoco sponsors the Principal's Scholars Program (high school student motivation and academic training in math and science), University of Chicago School Mathematics Project (K-12 mathematics curriculum development), Science Enrichment Program (parental/community volunteer program for hands-on science activities), and the National Action Council for Minorities in Engineering (NACME) (to increase the number of minorities in engineering). Amoco's local operations can provide in-kind assistance

## Amoco Corporation - continued

and will review funding requests. However, grants are approved through the Foundation with recommendations from appropriate local operations.

Proposals may be submitted anytime. However, local operations usually submit their request to the Foundation in early summer for funding consideration the following year. Those seeking grant support should work through local field location if possible. The Amoco Foundation annual report and guidelines are available upon request from the above address.

### Contact Arrangement

Contact can be made locally as listed below or through the headquarters in Chicago. For further information or referral, the headquarters contact is:

John Laubenstein
Program Advisor
Amoco Foundation
(see above address)
(312) 856-2049

The following contacts are public relations personnel for several major facilities. It is suggested that you work through these local contacts as well as with the Amoco Foundation in Chicago.

**Houston**
Annie Smith
Amoco Corporation
Public and Government Affairs
501 Westlake Park Blvd.
Houston, TX 77079
(713) 556-3702

**New Orleans**
Jim O'Leary
Amoco Corporation
Public and Government Affairs
1340 Poydrias Street
New Orleans, LA 70113
(504) 586-6371

## Amoco Corporation - continued

**Denver**
Dick Brewster
Amoco Corporation
Public and Government Affairs
1670 Broadway Street
Denver, CO 80202
(303) 830-4104

**Tulsa**
R. Dean Hurst
Amoco Corporation
Human Resources
519 South Boston
Tulsa, OK 74103
(918) 581-3507

**Atlanta**
William Huntington
Amoco Corporation
Public and Government Affairs
#6 Executive Park Drive, N.E.
P.O. Box 5077
Atlanta, GA 30329
(404) 634-2219

## Apple Computer, Inc.

20525 Mariani Avenue
Cupertino, CA 95014
(408) 996-1010

### Introduction

Apple Computer, Inc. (Apple) is a pioneer and innovator in the personal computer industry. Apple develops, manufactures, and sells personal computer systems for use in government, business, engineering, science, education, and the home. Apple seeks technologically to provide easy and affordable access to information and computing power for everyone.

### Local Structure

Apple has three manufacturing plants in Fremont, CA; Cork, Ireland; and Singapore. Apple also has regional sales and technical support offices in Westport, CT; Chicago, IL; and San Jose, CA.

### Areas of Interest/Available Resources

Apple has curriculum software guides and Apple II computer buyer guides as resource tools for teachers and administrators. To order or request information, write: Apple Computer, Inc., Curriculum Software/Solutions Guides, P.O. Box 1834, Escondido, CA 92025.

### Contact Arrangement

For further information or referral, contact:

Mary Fallon
Senior Public Relations Manager, Education
(see above address)
(408) 973-2941

Regional Educational Technology Consultants

**North Pacific**
Susan Root Collins
(206) 453-0512

**Southeast**
John Eckert
(404) 393-9358

**Pacific Southwest**
Laura Elliott Woodward
(714) 752-0303

## Apple Computer, Inc. - continued

**Northcentral**
Lynda J. Allen
(517) 337-2688

**Southcentral**
Tom Burnett
(214) 770-5863

**Northeast New York**
Marybeth Darrow
(609) 596-4490

**Northeast New England**
Jim Lengel
(617) 481-2840

For other questions, contacts are:

**Special Education**
Jane Lee
(408) 973-6484

**Adult Literacy**
James Kelley
(408) 973-4268

**K-12 Marketing**
Betsy Pace, Director
(408) 973-3708

**News Media Inquiries**

Mary Fallon
Senior Education Program Manager
(408) 973-2941

Sandra Bateman
K-12 Program Manager
(408) 973-5460

## Atlantic Richfield Company

515 South Flower Street
Los Angeles, CA 90071
(213) 486-3511

### Introduction

Atlantic Richfield Company (ARCO) explores, develops, and produces petroleum, including petroleum liquids and natural gas; refines, transports, and sells petroleum products; mines coal and other minerals; and manufactures various petrochemical products. ARCO employs over 39,000 people.

### Local Structure

ARCO facilities are located in: Anchorage, AK; Chatsworth and Los Angeles, CA; Denver, CO; and Dallas and LaPorte, TX.

### Areas of Interest/Available Resources

ARCO supports the Energy Source Education Program for grades K-12 in areas where ARCO has facilities. Further information is available from the Public Education and Volunteer Programs Office at the above address.

### Contact Arrangement

For further information or referral, contact:

Myrna Plost
Director, Public Education and
Volunteer Programs
(see address above)
(213) 486-8021

## The Boeing Company

7755 East Marginal Way
Seattle, WA 98108
(206) 655-2121

### Introduction

The Boeing Company, as one of the most prominent aircraft manufacturers in the world, has a vested interest in education as a means of producing competent workers. The educational programs are administered by the Boeing Corporate Office of Training and Education Relations, which is responsible for the K-12 programs and contribution budget.

### Local Structure

The Boeing Corporate Office of Training and Education Relations in the state of Washington is the central office for the education managers. These managers, housed in local Boeing facilities, serve sixteen school districts in the state of Washington and out-of-state in Wichita, KS; Portland, OR; and Philadelphia, PA.

### Areas of Interest/ Available Resources

Boeing's K-12 educational programs are designed by the local education managers to meet the needs of the particular school districts. For example, the Computers for Kids competition in Portland awards a computer system to the classroom which submits a winning proposal for its use.

Boeing is involved in a number of programs designed to bolster minority participation in the fields of science and engineering such as MESA and the Registry, in which high school students from minority populations are paired with a mentor at Boeing or some other industry. This program provides a role model for these youngsters as well as employment and personal development opportunities for them.

Teachers are served through Boeing's local educational programs, too. Technology in Education (TIE) keeps teachers aware of the changing work place applications of science and mathematics. Boeing also has a mini-grant program to motivate teachers to create and implement innovative projects.

Boeing has produced educational videotapes, which can be borrowed free of charge. "Directions," a series of 25 videotapes depicting various careers, can be used in career counseling. "Attitudes," another half-hour tape, is designed to reduce the school drop-out rate.

## The Boeing Company - continued

**Contact Arrangement**

For further information or referral, contact:

Kathy Nepean
Administrator of Education Relations
P.O. Box 3707
Mail Stop 11-83
Seattle, WA
(206) 655-8658

Education Managers

Bob Hughes
Manager, Educational Services
Boeing Computer Services
P.O. Box 24346, MS 9A-90
Seattle, WA 98124-0346
(206) 644-6383

Gary Lee
Enumclaw, WA
(206) 7734350

Scott McMurray
Mercer Island, WA
(206) 237-3332

Stan Moffett
Shoreline, WA
(206) 237-6654

Clarence Smith
Seattle, WA
(206) 657-9195

Pam Murray
Issaquah, WA
(206) 237-9554

Jonelle Adams
Bellvue, WA
(206) 865-6044

## The Boeing Company - continued

Chris Fitzgerald
Tacoma, WA
(206) 393-8032

Keith Shawlee
Puyallup, WA
(206) 234-9804

Wayne Haesel
Bethel, WA
(206) 237-9817

Kristin Wolfram
Puyallup, WA
(206) 234-9814

Robert Devore
Northshore, WA
(206) 237-1102

Fritz Baesman
Edmonds, WA
(206)234-6755

Karen Alligier
Wichita, KS
(316) 523-6196

Richard West
Auburn, WA
(206) 931-5056

Peggy Kau
Philadelphia, PA
(215) 591-3217

Sheryl Feskens
Everett, WA
(206) 342-0818

Elizabeth Warman
Portland, OR
(503) 667-8733

## CIBA-GEIGY Corporation

444 Saw Mill River Road
Ardsley, NY 10502
(914) 478-3131

### Introduction

CIBA-GEIGY is a developer and manufacturer of pharmaceuticals, dyes, agricultural chemicals, plastics, vision care products, and specialty chemicals. CIBA-GEIGY has 17,000 employees working in 30 states.

### Local Structure

CIBA-GEIGY facilities, by division, are: 1) **Corporate Facilities**—Ardsley, NY; Washington, DC; Greensboro, NC; Seattle, WA; McIntosh, AL; Toms River, NJ; 2) **Agricultural**—Greensboro, NC; Saint Gabriel, LA; Research Triangle Park, NC; Farmington, CT; 3) **Pharmaceuticals**—Summit, NJ; Suffern, NY; Broomfield, CO; Edison, NJ; 4) **Dyestuffs and Chemicals**—Greensboro, NC; Charlotte, NC; 5) **Plastics Division**—Hawthorne, NY; Santa Clara, CA; Los Angeles, CA; Lincoln, RI; Madison Heights, MI; East Lansing, MI; Kansas City, MO; 6) **Additives Division**—Hawthorne, NY; 7) **Pigments Division**—Hawthorne, NY; Newport, DE; Washington, PA; 8) **CIBA Vision Corporation**—Atlanta, GA; 9) **Spectra-Physics**—San Jose, CA.

### Areas of Interest/Available Resources

As a research-oriented corporation, CIBA-GEIGY has established a wide variety of programs in support of science education. The corporation sponsors the National Science Teachers Association (NSTA) Award for exemplary middle and high school teaching, the Council for Elementary Science International (CESI) Award for Outstanding Elementary School Teaching, and the CESI Exemplary Principal Award. "Science Screen Report," a film series to keep students abreast of the latest advancements in science, is also sponsored by CIBA-GEIGY Corporation. The films are distributed to 25 school districts where CIBA-GEIGY facilities are located. Other CIBA-GEIGY programs include high school science awards which honor graduating high school seniors who have exceled in science; a summer intern program for high school seniors at CIBA-GEIGY's research facilities in Ardsley and Suffern, NY; sponsorship of the Natural Sciences Student Symposium at the State University of New York at Purchase; and the Yonkers Schools and Business Alliance Mentoring Program. CIBA-GEIGY also celebrates National Science and Technology Week with elementary school students in Westchester County, NY; and National Chemistry Week with high school and college science students in Westchester, Rockland, and Suffolk counties.

## CIBA-GEIGY Corporation - continued

### Contact Arrangement

For further information or referral, contact:

Betsyjune Bennett
Coordinator, Science Education Programs
(see above address)
(914) 479-2984

For information relating to the divisions, contact the specific division as listed.

**Agricultural Division**
410 Swing Road
P.O. Box 18300
Greensboro, NC 27419-8300
(919) 292-7100

**Pharmaceuticals Division**
556 Morris Avenue
Summit, NJ 07901
(201) 277-5000

**Dyestuffs and Chemicals Division**
410 Swing Road
P.O. Box 18300
Greensboro, NC 27419-8300
(919) 292-7100

**Additives and Pigments**
7 Skyline Drive
Hawthorne, NY 10532-2188
(914) 347-4700

**Plastics Division**
7 Skyline Drive
Hawthorne, NY 10532-2188
(914) 347 6600

**CIBA Vision Corporation**
2910 Amwiler Court
Atlanta, GA 30360
(404) 448-1200

**Spectra-Physics**
3333 N. First Street
San Jose, CA 95134-1995
(408) 432-3333

## Chevron U.S.A. Inc.

575 Market Street
P.O. Box 7753
San Francisco, CA 94120-7753
(415) 894-4193

### Introduction

Chevron U.S.A. Inc. (Chevron) is a subsidiary of Chevron Corporation, formerly Standard Oil Company of California. Chevron Corporation is an integrated petroleum company with worldwide operations that include: crude oil and natural gas exploration, development, transportation, and refining; marketing of industrial and agricultural chemicals; mining; and land development. Chevron Corporation employs nearly 52,000 people worldwide.

### Local Structure

Locations of major Chevron Corporation facilities are: Anchorage, AK; Bakersfield, El Segundo, La Habra, Los Angeles, Richmond, San Francisco, San Ramon, Santa Barbara, and Ventura, CA; Denver, CO; FL; Atlanta, GA; Barber's Point, HI; New Orleans, LA; Baltimore, MD; Pascagoula, MS; MO; Albuquerque, NM; ND; OH; Tulsa, OK; Portland, OR; Philadelphia, PA; TX; Salt Lake City, UT; Seattle, WA; and WY.

### Areas of Interest/Available Resources

Chevron has traditionally given the largest share of its education contribution dollars to higher education. Chevron continues to emphasize educational programs, including environmental education and conservation, and precollege math and science. Chevron underwrites *A Resource Guide* for the National Geographic television specials to help K-12 educators incorporate the programs into a variety of curriculum areas. Request from: National Geographic Specials, c/o Chevron, 742 Bancroft Way, Berkeley, CA 94710. Chevron publishes *Career Awareness*, a high school teaching unit that includes career booklets and teacher's guide and explores a cross-section of job opportunities typical to most large companies. Chevron grant application guidelines may be obtained from the Chevron Corporate Contributions Office at the above address. Those seeking funding are urged to write for guidelines first and then call for further referral.

## Chevron U.S.A. Inc. - continued

### Contact Arrangement

For further information or referral, contact:

Linda J. Van Heertum
Contributions Representative
(see above address)
(415) 894-5470

**The Coca-Cola Company**
One Coca-Cola Plaza
Atlanta, GA 30313
(404) 676-4200

### Introduction

The Coca-Cola Company is an international company which produces and distributes soft drinks worldwide. In the United States it also has a considerable market in fruit juice and juice-based drinks, as well as the well-known soft drinks.

### Local Structure

The Coca-Cola company and its affiliate Coca-Cola Enterprises have operations over most of the United States and in many countries throughout the world.

### Areas of Interest/Available Resources

The Coca-Cola Company has a commitment to supporting innovative programs in education. In the past, it has supported projects focusing on the following: the enhancement of education of minority groups in urban settings, leadership training for secondary teachers, and literacy programs.

The Coca-Cola Foundation awards grants totaling at least $5 million a year to various educational institutions and programs. For information regarding procedures for applying for such a grant, write to: the Coca-Cola Foundation, Post Office Drawer 1734, Atlanta, GA 30301.

### Contact Arrangement

For further information or referral, contact:

Donald R. Greene
Assistant Vice President
Corporate Contributions
(see above address)
(404) 676-2680

**Cray Research, Inc.**
1440 Northland Drive
Mendota Heights, MN 55120
(612) 452-6650

### Introduction

Cray Research, Inc. (Cray) designs, develops, manufactures, markets, and supports large-scale, high-speed computer systems for scientific applications. Cray's computer systems are primarily used for physical simulation, such as weather forecasting, aircraft and automotive design, nuclear research, geophysical research, and seismic analysis. Cray's 4,000 employees include 40% with at least a four-year technical degree. The typical hire has 5+ years experience with large-scale scientific systems.

### Local Structure

Cray is primarily located in Minnesota and Wisconsin, although it has sales and service offices nationwide. The Cray engineering and manufacturing facility is located in Chippewa Falls, WI.

### Areas of Interest/Available Resources

The Cray Research Foundation is interested in supporting opportunities in the following categories: 1) programs for innovation or excellence in mathematics, science, or engineering education; 2) programs to overcome current shortages of mathematics, science, and engineering faculty; and 3) scholarships and career awareness programs to increase the number of individuals who enter our industry's discipline, especially women and underrepresented minorities. In 1989 the K-12 focus included: programs at the K-12 level for teacher recruitment, preparation, development, and retraining in science and mathematics; and activities to restructure education through innovative teaching, curriculum, and technology projects in local schools, through partnerships and collaborative efforts at state and national levels. Local levels are able to provide in-kind assistance, but funding is largely devoted to its area of geographic concentration.

Cray generally focuses on grant-making in Minnesota and Wisconsin. Applications are accepted continuously with proposal review four times each year. Foundation guidelines are available upon request. Cray recommends calling them for assistance in either Minnesota or Wisconsin.

**Cray Research, Inc. - continued**

## Contact Arrangement

For further information or referral, contact:

**Minnesota**
William Linder-Scholer
Director, Community Affairs
(see above address)
(612) 683-7299

**Wisconsin**
Julie Stafford
Cray Research Consultant
c/o Chippewa Falls Area Unified Schools
1345 Ridgewood Drive
Chippewa Falls, WI 54729
(715) 723-1181

## Dow Chemical Company

2020 Willard H. Dow Center
Midland, MI 48674
(517) 636-1000

### Introduction

The Dow Chemical Company (Dow) is a diversified manufacturer of chemicals, plastic, pharmaceuticals, and agricultural and consumer products. Dow and its wholly- and partly-owned subsidiaries operate plants at 150 locations in 31 countries, and employ more than 50,000 people worldwide.

### Local Structure

Dow has manufacturing facilities, research laboratories, or major administrative offices in the following U.S. locations (* denotes division or subsidiary headquarters): Russellville, AR; Fresno, Pittsburg*, Torrance, Walnut Creek, CA; Gales Ferry, CT; Coral Gables*, FL; Dalton, GA; Joliet, IL; Indianapolis*, IN; Plaquemine*, LA; Bay City, Ludington, Midland*, and Traverse City, MI; Minneapolis, MN; Pevely, MO; Piscataway, NJ; Cincinnati*, Findlay, Granville, Hanging Rock, Licking River, and Strongsville*, OH; Greenville and Mauldin, SC; Freeport*, Greenville, and LaPorte, TX; and Washington, DC.

### Areas of Interest/Available Resources

The largest share of Dow's contributions to science education continues to go to higher education. But the company has expanded its efforts at the elementary and secondary levels to help increase the future supply of qualified scientists and engineers and to get more students interested in science in general.

Although the company does support some national science education programs, the majority of Dow's contributions are made at the local and state level. For example, in Michigan, Dow's Touch Tech program has funded the construction of a hands-on chemistry laboratory at the Impression 5 Museum in Lansing, which has exposed several hundred Detroit-area high school students to day-long, hands-on technology seminars run by Dow scientists. A summary of Dow's activities, "Educational Outreach Survey of Dow Chemical U.S.A. and Dow Canada," can be requested from Catherine Clinton (address above).

## Dow Chemical Company - continued

### Contact Arrangement

For further information or referral, contact can be made locally as listed below or through the headquarters in Midland. The headquarters contact is:

Catherine Clinton
Science Communications
(see above address)
(517) 636-2474

The following contacts work in the public affairs departments at major Dow locations or subsidiaries:

**Michigan**
Sue Dupree
Dow Chemical Company
47 Building
Midland, MI 48667
(517) 636-5258

**Texas**
Jess Hibbetts
Dow Chemical, U.S.A
A.P. Beutel Building
Highway 288
Freeport, TX 77541
(409) 238-2011

**Louisiana**
Tom Joffrion
Dow Chemical U.S.A.
Louisiana Highway 1
Plaquemine, LA 70765
(504) 389-8236

**California**
Sarah Prince
Dow Chemical U.S.A.
P.O. Box 1398
Pittsburg, CA 94565
(415) 432-5009

### E.I. Du Pont de Nemours and Company

8067 Du Pont Building
Wilmington, DE 19898
(302) 774-1000

#### Introduction

E.I. Du Pont de Nemours and Company (Du Pont) is principally engaged in research, manufacture, and marketing of agricultural and industrial chemicals; biomedical products; fibers; electronics; finishes; polymer products; as well as petroleum exploration and production, and coal operations. Du Pont employs over 140,000 persons worldwide.

#### Local Structure

Du Pont is headquartered in Wilmington and has 100 plants in the U.S. Facilities with more than 200 employees are in the following locations: AL; Lonoke, AR; Antioch, CA; CO; Fairfield County, CT; Edge Moor, Newark, Seaford, and Wilmington, DE; Starke, FL; Athens, GA; Clinton and Fort Madison, IA; Louisville, KY; Lake Charles and La Place, LA; Boston, MA; Flint, Mount Clemens, and Troy, MI; Moberly, MO; Pass Christian, MS; Brevard, Durham County, Fayetteville, Grover, Kinston, and Wilmington, NC; Deepwater, Parlin, and Pompton Lakes, NJ; NM; Buffalo, Garden City, Ilion, Niagara Falls, Poughkeepsie, and Rochester, NY; Circleville and Toledo, OH; Ponca City, OK; Boothwyn, Clearfield, Emigsville, Glenolden, New Cumberland, Philadelphia, and Towanda, PA; Aiken, Camden, Charleston, and Florence, SC; Chattanooga, Memphis, New Johnsonville, and Old Hickory, TN; Beaumont, La Porte, Orange, and Victoria, TX; Front Royal, Martinsville, Richmond, and Waynesboro, VA; Belle, Martinsburg, and Parkersburg, WV.

#### Areas of Interest/Available Resources

Du Pont targets a large amount of its educational funding to reinforce engineering, science, and business disciplines at major American universities. Du Pont supports precollege science and economic education organizations such as: Junior Achievement, Americans for the Competitive Enterprise System, and National Action Council for Minorities in Engineering on the local and national level. Du Pont also sponsors the attendance of science teachers from plant site communities at National Science Teacher Association conferences as part of a professional development program. Du Pont provides support to qualified local programs in areas of substantial company employment. The Du Pont annual report is available from the address below.

## E.I . Du Pont de Nemours and Company - continued

### Contact Arrangement

For further information or referral, contact:

Sharon Hake
Contributions and Community Affairs
External Affairs Department
Du Pont Company
8065 Du Pont Building
Wilmington, DE 19898
(302) 774-6378

## Edison Electric Institute

701 Pennsylvania Avenue, N.W.
Washington, DC 20004
(202) 508-5591

### Introduction

Edison Electric Institute (EEI) is the national association of America's investor-owned electric utilities. Through its member companies and, where appropriate, by direct action, it helps assure consumers and the nation a reliable, economic, and secure supply of electricity. EEI's 175 member companies generate about three-fourths of all the electricity in the country. The Institute's staff of about 290 includes scientists, engineers, economists, environmental analysts, and other energy specialists. They work closely with more than 4,600 member-company representatives.

### Local Structure

EEI's 175 member companies are located across the country (see directory mentioned below).

### Areas of Interest/Available Resources

Educational services at EEI are at the heart of a network of programs and liaisons that spread nationwide through education organizations and its member utilities. Services range from packaged programs—films, classroom materials, assembly programs, tours of industry facilities—to ongoing partnerships with schools and education organizations. These partnerships encompass a myriad of programs—environmental education centers, science camps, museum exhibits, competitions, and teacher training, to name a few—that fit the local electric company's resources with the needs of schools in the areas. Each member company is autonomous in its ability to provide in-kind as well as funding assistance. EEI publishes a directory of educational services provided by their member companies, which is available upon request from headquarters.

In addition to its liaison function, EEI Educational Services offers the Power Engineering Educator Award to an outstanding university-level educator. The *Electric Educators Exchange* is a quarterly newsletter on educational services at EEI member companies for EEI members and others interested in public-private partnerships and quality educational programs from the private sector. Energy reporting seminars at schools of journalism introduce the science and business of energy to prospective reporters. About 300 students attend one- to two-day seminars at five or six journalism schools each year. The Energy Learning Center exhibit, jointly sponsored by several energy trade associations, brings information about a variety of energy sources and

## Edison Electric Institute - continued

classroom materials to participants at six to eight education conferences each year.

### Contact Arrangement

For further information or the name of the educational services contact person at your local utility company, contact:

Walter Purdy
Director, Educational Services
(see above address)
(202) 508-5591

Wanda McMurray
Educational Service Representative
(see above address)
(202) 508-5590

## Electronic Data Systems

7171 Forest Lane
Dallas, TX 75230
(214) 661-6000

### Introduction

Electronic Data Systems (EDS) pioneered the data processing services field 27 years ago. EDS is a leading provider of information technology services. EDS customers range from small businesses to large corporations and governments.

### Local Structure

EDS is based in Dallas, TX and employs over 60,000 professionals including a large number of employees in the Detroit and Washington, DC areas. EDS has operations in all 50 states and in 27 countries worldwide.

### Areas of Interest/Available Resources

As a corporate function, EDS supports and encourages city-by-city coalitions of business and education leaders and national educational organizations and events. Many EDS accounts throughout the country support school/business partnerships, which include mentor programs, field trips, speakers and presentations, library enhancement programs, technology awareness programs, academic awards and other special events.

EDS also supports a number of major national educational-related science and technology events such as the JASON Project and the Smithsonian Institution's new Information Age Exhibit at the Museum of American History.

## Contact Arrangement

For further information or referral, contact:

Education Outreach
Cindy Canevaro
Manager, Education Outreach
(See above address)
(214) 490-2429

Media Relations
Melissa Zablan
Public Relations
(see above address)
(214) 661-6328

## Electronic Data Systems - continued

Annual Reports
Angela Bentley
Corporate Communications
(see above address)
(214) 661-6050

## Ford Motor Company

23400 Michigan Avenue, Suite 1100
Dearborn, MI 48124
(313) 322-3000

### Introduction

Ford Motor Company (Ford) is principally engaged in the manufacture, assembly, and sale of cars and trucks, and related parts and accessories, as well as farm and industrial tractors and equipment. It is also involved in electronics, space technology, communications, and government defense work. Ford employs nearly 384,000 people nationwide.

### Local Structure

Ford facilities are located in: Palo Alto, CA; Colorado Springs, CO; Washington, DC; Allen Park, Dearborn, Detroit, Livonia, Owosso, Plymouth, Rawson, Troy, and Wixom, MI; and Cleveland and Fostoria, OH.

### Areas of Interest/Available Resources

Ford's interests and funding are very broad-based. It is very involved in outreach activities ranging from interactive programs with schools to grants for higher education. Ford's local plants have a high level of autonomy in outreach involvement. The best method for contact is to call the local vice president of research who can provide the proper referral assistance. Ford processes funding requests throughout the year.

### Contact Arrangement

For further information or referral, contact:

Robert A. Pett
Manager, Physical Analysis and Technical
Services Department
Ford Motor Company
Room E-1146 Science Research Labs
P.O. Box 2053
Dearborn, MI 48121-2053
(313) 323-0988

## General Electric Company

3135 Easton Turnpike
Fairfield, CT 06431
(203) 373-2431

### Introduction

General Electric Company (GE) produces major appliances, lighting products, medical equipment, plastics, engineered materials, power systems, technical systems, and aircraft engines. The Company is also involved in television broadcasting through NBC. GE is a global company with interests ranging from aircraft and major appliances to financial services and broadcasting. GE employs approximately 250,000 people worldwide.

### Local Structure

GE has plants and laboratories in approximately 200 locations in 33 states and Puerto Rico. Major facilities are located in Cincinnati, OH; Pittsfield and Lynn, MA; Erie, PA; Milwaukee, WI; and Louisville, KY.

### Areas of Interest/Available Resources

The Company's funding is largely directed toward increasing the number of college bound students from poor and inner-city schools. GE has worked with local alliances in the past and has adopted more than 20 schools, including the Manhattan Center for Math and Science. The GE Foundation only makes grants in cities where GE has operations, at schools in which GE employees serve as volunteers. To make contact with a local GE facility it is best to work through the local GE operator to obtain the name of the community or employee relations manager.

### Contact Arrangement

For further information or referral, contact should be made locally through a GE plant or facility. For information about the GE Foundation, contact:

P. S. McGrath
Program Manager
College Bound Program
(see above address)
(203) 373-3224

## Geo. J. Ball, Inc.

P.O. Box 335
West Chicago, IL 60185
(708) 231-3600

### Introduction

Geo. J. Ball, Inc. is a diversified multi-national corporation which breeds, produces, and sells horticultural products throughout the world. Major product lines are vegetable seeds and flower seeds. Ball also distributes a full range of horticultural supplies such as seeds, plants, and greenhouse systems to wholesale growers. Ball employs 1,000 people full-time plus several thousand seasonal production employees off-shore.

### Local Structure

Geo. J. Ball, Inc. has three major divisions: the Vegetable Seed Group, headquartered in Saticoy, CA; the Flower Seed Group; and the Grower Group, both headquartered in West Chicago, IL. Research, production, and sales locations are located throughout the world, including Canada, Chile, Costa Rica, Italy, Spain, Japan and Mexico. Other businesses include *GrowerTalks*, a trade magazine, and the Ball Institute, a horticultural training facility.

### Areas of Interest/Available Resources

Geo. J. Ball sponsors the Ball Foundation, a not-for-profit organization which conducts research on aptitudes and their relationship to career success and satisfaction. The Ball Foundation has also developed a test battery to measure key aptitudes.

Another area of interest is education research. Efforts are being made to increase awareness of the need for more and better research on education. Ball is working to develop an agenda of issues that should be researched and is also interested in examining how research findings can be more effectively implemented in the classroom.

Corporate officers serve on local school/business partnerships and school boards. Ball also assists local schools in designing experiments to enhance their study of plant science.

### Contact Arrangements

For further information or referral, contact:

Anne Leventry-Jeffers
Project Manager
(see above address)
(708) 231-3600

## Hercules Incorporated

Hercules Plaza
Wilmington, DE 19894
(302) 594-5000

### Introduction

Hercules Incorporated (Hercules) is a worldwide supplier of a broad line of natural and synthetic materials and related systems. The company manufactures and markets specialty chemicals such as resins, rosin, paper chemicals, coupling agents, peroxides, flavors, fragrances, and pectin; engineered polymers such as polypropylene film and fibers, synthetic pulp, and reaction molding systems; as well as aerospace products, including rocket motors, carbon fiber, composite structures, and advanced propellants. Hercules employs 23,000 people nationwide.

### Local Structure

Through three world companies—Hercules Specialty Chemicals Company, Hercules Engineered Polymers Company, and Hercules Aerospace Company—the corporation operates 40 major plants in the U.S. and a like number overseas.

Subsidiaries—wholly owned: 1) **Champlain Cable Corporation**: Wilmington, DE; 2) **Hercules Aerospace Display Systems, Inc.**: Hatfield, PA; 3) **Hercules Defense Electronics Systems, Inc.**: Clearwater, FL; 4) **Mica Corporation**: Culver City, CA; 5) **Simmonds Precision Products, Inc.**: Tarrytown, NY. Affiliated companies: 1) **Aeonic Systems, Inc.**: Billerica, MA; 2) **Aqualon Company**: Wilmington, DE; 3) **BHC Laboratories, Inc.**: Warsaw, IN; 4) **EKC Technology, Inc.**: Hayward, CA; 5) **Epicor Laboratories, Inc.**: Palo Alto, CA; 6) **Intermarine, U.S.A.**: Savannah, GA; 7) **Texas Alkyls, Inc.**: Deer Park, TX.

### Areas of Interest/Available Resources

For several years the research center has maintained a program of summer employment for students in chemistry, chemical engineering, and computer science. Hercules also employs students from two programs aimed specifically at minorities. These are the Forum for the Advancement of Minority Engineers (FAME) program and its own Minority Engineers Development (MEND) program. The research center generally employs two to four FAME students each summer. The MEND program provides scholarship support and summer employment for 30 to 40 minority students, selected by their college faculty at several Hercules locations.

Hercules employees are encouraged to participate actively in programs at local schools, colleges, and universities. Hercules joined the

## Hercules Incorporated - continued

QUEST Alliance in 1987. The QUEST Committee is a school-industry cooperative, and its goal is to promote and support instructional quality in science education in New Castle County schools of Delaware. The Committee members are: the Du Pont Company, Hercules Incorporated, University of Delaware, the Forum to Advance Minorities in Engineering (FAME), and six representatives from New Castle County school districts. Programs sponsored by QUEST are: 1) evening seminar series, 2) professional development of teachers—attendance at National Science Teachers Association meetings, and 3) enhancement in elementary science education programs. Hercules scientists are active in academic programs to stimulate their technical and personal growth and maintain their scientific contacts.

### Contact Arrangement

For further information or referral, contact:

Dennis G. Morrell
Research Supervisor
Hercules, Inc.
Hercules Research Center
c/o 1313 N. Market Street
Wilmington, DE 19894-0001
(302) 995-3446

Asha S. Hirwe
Manager, Technical Information Division
(see above address)
(302) 995-3480

## Hewlett-Packard Company

3000 Hanover Street
Palo Alto, CA 94304
(415) 857-1501

### Introduction

Hewlett-Packard Company designs, manufactures, and services electronic products and systems for measurement and computation. HP's basic business purpose is to provide the capabilities and support needed to help customers worldwide improve their personal and business effectiveness.

### Local Structure

HP operates in over 100 cities in the U.S. including: Cupertino, North Hollywood, Palo Alto, Rocklin, Roseville, San Diego, San Jose, Santa Clara, Santa Rosa, and Sunnyvale, CA; Colorado Springs, Fort Collins, and Loveland, CO; Atlanta, GA; Boise, ID; Rolling Meadows, IL; Andover, Burlington, and Waltham, MA; Rockville, MD; Rockaway, NJ; Corvallis, and McMinnville, OR; Avondale, PA; Marysville, Spokane, and Vancouver, WA.

### Areas of Interest/Available Resources

HP supports education by placing its equipment in teaching laboratories where the students of today are trained to become tomorrow's leaders in science, engineering, medicine, and business. HP also makes contributions to selected organizations, primarily in the geographical locations where its employees and customers are concentrated. Grants are made to national nonprofit organizations, with an emphasis on programs that enhance the understanding of science, engineering, and medicine. HP also supports educational programs that focus on increasing the representation of women, minorities, and people with disabilities in business and technical fields.

### Contact Arrangement

For further information or referral, contact:

Corporate Offices
Bess Stephens
K-12 Education Relations Manager
(see above address)
(415) 857-2857

## Hewlett-Packard Company - continued

Cubertino
Shirley Gilbert
Public Relations Manager
Cupertino, CA
(408) 447-6012

Santa Rosa
Dan Condron
Public Affairs Manager
Santa Rosa, CA
(707) 577-1400

Colorado
John Riggen
Colorado Public Affairs Manager
Colorado Springs, CO
(719) 590-5700

Washington
Barbara Kommer
Northwest Public Affairs Manager
Everett, WA
(206) 335-2288

Oregon
Jerry Fisher
Public Affairs Manager
Corvallis, OR
(503) 750-2022

## ICI Americas Inc.

Concord Pike & New Murphy Road
Wilmington, DE 19897
(302) 575-3000

### Introduction

ICI Americas Inc. comprises eight business groups: Advanced Materials and Electronics, Agricultural Products, Films, General Products, Glidden, Pharmaceuticals, Polyurethanes, and Specialty Chemicals. ICI Americas has plants, sales offices and research labs located across the country and employs approximately 17,000 people in the U.S.

### Local Structure

ICI Americas is headquartered in Wilmington. Major ICI Americas sites include: 1) Advanced Materials—Tempe, AZ; Orange and Santa Ana, CA; Columbus, IN; Winona, MN; Fayetteville, NC; New Castle, DE; Exton, Delano, Malvern, and Thorndale, PA; Greenville, TX; 2) Agricultural Products—Bucks, AL; North Little Rock, AR; Mountain View, Richmond, and Visalia, CA; Wilmington, DE; Seymour, IL; Coon Rapids and Slater, IA; Garden City, KS; St. Gabriel, LA; Leland, MS; Omaha, NE; Dayton, NJ; Goldsboro, NC; Perry, OH; Mt. Pleasant, TN; Pasadena, TX; 3) Electronics—San Jose, Santa Rosa, and Van Nuys, CA; Newark, DE; 4) Films—Fayetteville, NC; Hopewell, VA; 5) General Products—Byron, GA; Chicago, IL; Louisville, KY; Dighton, MA; Charlotte and Greensboro, NC; Tamaqua and Valley Forge, PA; Chattanooga, TN; Houston and Pasadena, TX; 6) Glidden—San Francisco, CA; Atlanta, Columbus, and Oakwood, GA; Oakbrook, IL; Charlotte, NC; Cleveland, Huron, Strongsville, Westlake, and Wickliffe, OH; Reading, PA; Carrollton and Temple, TX; 7) Pharmaceuticals—Pasadena, CA; Newark, DE; Chicago, IL; Germantown, MD; Dighton, MA; 8) Polyurethanes—Geismar, LA; Sterling Heights, MI; Woodbury, NJ; 9) Specialty Chemicals—El Dorado, AK; Berkeley, Hawthorne, Newark, Vallejo, and Woodland Hills, CA; New Castle, DE; Miami, FL; East Point, GA; Chicago, IL; Centerville and Frankfurt, IN; Dighton, Peabody, and Wilmington, MA; Sterling Heights, MI; Charlotte and Winston-Salem, NC; Edison and Linden, NJ; Cincinnati, OH; Bristol and Eighty-four, PA; Dallas, TX; Neenah, WI.

### Areas of Interest/Available Resources

ICI Americas sponsors numerous educational programs including Junior Achievement, Americans for the Competitive Enterprise System, facility tours, and career days. In addition, the company provides guest speakers on topics related to company operations. ICI Americas participates in various outreach programs with an emphasis on minority programs and precollege education, particularly in the areas of science and engineering.

## ICI Americas Inc. - continued

The local operations of ICI Americas can provide in-kind assistance and will review funding requests. The ICI annual report is available upon written request from the Corporate Communications Department at the above address.

**Contact Arrangement**

For further information or referral, contact:

William M. Metten, Jr.
Director, Corporate Communications
(see above address)
(302) 575-3271)

## International Business Machines Corporation

Old Orchard Road
Armonk, NY 10504
(914) 765-1900

### Introduction

International Business Machines Corporation (IBM) is a manufacturer of total data processing systems and component equipment addressing the computing and information-handling needs of a wide variety of industries, organizations, and institutions worldwide. Their products include micro and minicomputers, mainframe hardware, information networking facilities, office systems, workstations, and typewriters. IBM employs over 300,000 people in a domestic and worldwide organization.

### Local Structure

Headquartered in Armonk, NY, IBM has manufacturing sites in Tucson, AZ; San Jose, CA; Boulder, CO; Boca Raton, FL; Rochester, MN; Charlotte and Raleigh, NC; East Fishkill, Endicott, Kingston, and Poughkeepsie, NY; and Austin, TX. In addition, there are numerous IBM world trade manufacturing sites. Small research facilities are associated with many of the manufacturing locations, with major research activities conducted in Yorktown Heights, NY and Zurich, Switzerland.

Sales offices are located in all major cities of the U.S. and number in excess of 200.

### Areas of Interest/Available Resources

IBM has both marketing interests and social concerns in the area of education. Education Systems, headquartered in Atlanta, GA, concentrates on kindergarten through the 12th grade and vocational school areas—with an emphasis on basic skills, special needs education, math and science, teacher education, and adult literacy. Academic Information Systems, located in Milford, CT, directs its efforts at higher education areas. University Relations, located in Armonk, NY, is responsible for IBM education grants aimed at both sectors of concentration.

Community relations, including those involving education, are handled by more than twelve regional directors of community relations who are located in close proximity to large metropolitan areas.

## International Business Machines Incorporated - continued

### Contact Arrangement

For further information or referral, contact:

Harvey S. Long
Education Industry Consultant
IBM Corporation
6600 Rockledge Drive
Bethesda, MD 20817
(301) 493-1109

John Porter
IBM Director of University Relations
IBM Corporate Headquarters
(914) 765-5860

Ursula Fairbairn
IBM Director of Education International
IBM Corporate Headquarters
(see above address)
(914) 765-6890

## Merck and Company, Inc.

P.O. Box 2000
Rahway, NJ 07065-0999
(201) 574-4000

### Introduction

Merck and Company, Inc. (Merck) is a research-intensive health products company with worldwide headquarters in Rahway, NJ. The Company develops and produces human and animal health-care products, as well as specialty chemicals. Products include prescription drugs, worming and external parasite control agents, and vaccines. Merck employs 34,800 people nationwide.

### Local Structure

Merck facilities are found in Springdale, AR; San Diego, CA; Albany, GA; Lawrence, KS; Fulton and Saint Louis, MO; Walpole, NH; North Branch, and Rahway, NJ; Okmulgee, OK; Danville, Ellwood City, Pittsburgh, and West Point, PA; Bayport, TX; Elkton, VA, and Puerto Rico.

### Areas of Interest/Available Resources

Merck supports a number of activities as its commitment to improving science and technology education in the state of New Jersey and nationally: New Jersey Business/Education/Science Education Consortium (a statewide local alliance); New Jersey Science Supervisors Association (current biological research seminars for teachers); Center for Mathematics, Science and Computer Education at Rutgers, the state university of New Jersey (elementary and secondary teacher institutes); Center for Elementary Science, Fairleigh Dickenson University, New Jersey Science Supervisors, and New Jersey Science Teachers Association (elementary science teaching training institutes for teachers, principals, and supervisors); the Academy for the Advancement of Teaching and Management, New Jersey Department of Education (teaching and management training for educators and Merck laboratory visits); Science Day at Merck for high school science majors (secondary students meet with scientists to discuss science, careers, and tour research laboratories); Visiting Scientists Program (selected K-12 schools); and Merck Education Fellows (science seminars for elementary school principals); Precollege for Minorities Programs; and K-5 hands-on science programs in selected school districts.

## Merck and Company - continued

### Contact Arrangement

For further information or referral, contact:

C. R. Hogen
Senior Director, Corporation Contributions
(see above address)
(201) 594-4374

Denis Toomey
Plant Manager
Merck Chemical Manufacturing Company
3517 Radium Springs Road
Albany, GA 31708

John J. Hoffman
Personnel Manager
Merck Chemical Manufacturing Company
3517 Radium Springs Road
Albany, GA 31708

Hank Hurst
Personnel Manager
Merck Chemical Manufacturing Company
P.O. Box 196
Danville, PA 17821

George Lott
Personnel Manager
Merck Chemical Manufacturing Company
P.O. Box 7
Elkton, VA 22827

## National Executive Service Corps

The Math/Science Education Group
257 Park Avenue South
New York, NY 10010
(212) 529-6660

### Introduction

The National Executive Service Corps (NESC) is a nonprofit organization which provides volunteer consulting services of retired executives from business, the military, and the professions to other nonprofits. NESC serves health care, social services, cultural, religious, and educational organizations. NESC has over 1,000 members.

The Math/Science Education Group is a division of NESC. The mission of the Math/Science Education Group is to enhance the basic technological competency of public school students by increasing the supply of qualified science and mathematics teachers and by placing technically competent retired professionals in roles that influence and support teaching.

### Local Structure

The Math/Science Education Group is headquartered in New York City and through NESC is affiliated with Executive Service Corps in more than 30 principal U.S. cities. These include: Birmingham, AL; Phoenix, AZ; Little Rock, AR; Los Angeles and San Francisco, CA; Denver, CO; Stamford, CT; Washington, DC; Jacksonville and Tampa, FL; Atlanta, GA; Chicago, IL; Indianapolis, IN; New Orleans, LA; Baltimore, MD; Boston, MA; Detroit and Flint, MI; Minneapolis, MN; St. Louis, MO; Livingston, NJ; Durham, NC; Albany and Rochester, NY; Tulsa, OK; Pittsburgh, PA; Fort Worth, Houston, San Antonio, TX; and Seattle, WA.

### Areas of Interest/Available Resources

A math/science initiative is designed to improve the technological literacy of America's youth and includes programs which take full advantage of both currently employed and already retired engineers, scientists and mathematicians. For those currently employed who are interested in a second career in teaching, the Carnegie Corporation of New York is funding a collaborative effort involving: GE Aerospace Division, Valley Forge, PA, and Drexel University; General Dynamics, Texas Christian University, and the city school district in Fort Worth, TX; Fort Bragg, the University of North Carolina Math/Science Education Network, and Fayetteville State University, NC; and the naval base, the unified school district, and the University of California at San Diego, CA.

## National Executive Service Corps - continued

For already retired senior scientists and engineers the U.S. Department of Education's Fund for the Improvement of Postsecondary Education is sponsoring a clinically based program to prepare and place retirees with contemporary technical expertise as second career mathematics or science teachers in schools in New York City and the greater Hartford, CT area. The New York City model was developed by NESC in collaboration with Brooklyn College and the United Federation of Teachers and its Teacher Centers Consortium.

A city-wide volunteer program to enrich the learning of mathematics and science in Baltimore, MD high schools is supported by a grant from the National Science Foundation. Highly experienced retired professionals are being placed in a variety of volunteer roles that influence and support learning. Precursory programs have been underway for some time in White Plains, NY, and Camden, NJ.

An available publication is *Education's Greatest Untapped Resource: Second Career Scientists and Engineers.*

### Contact Arrangement

For further information or referral, contact:

Dorothy Windhorst
(see above address)
(212) 529-6660

## OMNI International Ltd.

1965 Broadway
New York, NY 10023
(212) 496-6100

### Introduction

OMNI Magazine is an international magazine of science, science fiction, and the future, featuring articles on all aspects of science and original science fiction. Each month, OMNI reports on the latest developments in science, technology, aerospace, and medicine. OMNI is editorially committed to covering critical and timely issues including: education, the environment, creativity, and human development. OMNI provides cutting-edge information, games, quizzes and special guides to empower its readers with the ability to increase their knowledge and improve the quality of their lives, their future, and their world.

OMNI has a circulation of nearly one million readers, reaching an audience of over four million.

### Local Structure

OMNI is published by General Media Inc. which is located at the above address. Regional offices are located in Washington, DC; Los Angeles, CA; San Francisco, CA; Chicago, IL; Detroit, MI; and Dallas, TX.

### Areas of Interest/Available Resources

OMNI provides editorial coverage on new science/education/learning developments.

### Contact Arrangement

For further information or referral, contact:

Linda Newman
Vice President, Associate Publisher
(see above address)
(212) 496-6100

**Phillips Petroleum Company**
16th Floor, Phillips Building
Bartlesville, OK 74004
(918) 661-9072

### Introduction

Phillips Petroleum Company explores, refines, and produces petroleum worldwide. Phillips also produces and distributes chemicals. Phillips employs over 21,000 people.

### Local Structure

Phillips facilities are located in: Kenai, AK; AL; CA; IL; KS; KY; LA; NC; NM; OH; Bartlesville, OK; Greenville, SC; Amarillo, Borger, Dallas, Houston, Odessa, Richardson, and Sweeny, TX; UT; Kennewick, WA; and WY.

### Areas of Interest/Available Resources

Phillips supports programs that build the future potential of people and enhance the future quality of life. Phillips has produced videotapes/films and accompanying materials that promote careers in mathematics and science. "The Search for Solutions" and "Challenge of the Unknown" series are available, free of charge for copying, from Karol Media, 22 Riverview Drive, Wayne, NJ 07470. "The Search for Solutions/Challenge of the Unknown Teaching Notes," developed to supplement and complement the series, can be used in any way that will enhance instructional activities. The "Teaching Notes" are now available through subscription from Wallis Gideon Wallis, Inc., P.O. Box 700418, Tulsa, OK 74170. Other publications that accompany the series are *The Challenge of the Unknown Teaching Guide* and *Search for Solutions.*

### Contact Arrangement

For further information or referral, contact:

John C. West
Executive Manager
Phillips Petroleum Foundation, Inc.
(see address above)
(918) 661-9072

## Proctor and Gamble Company

5299 Spring Grove Avenue
Cincinnati, OH 45217
(513) 627-7456

### Introduction

Procter & Gamble is a global corporation whose business is the manufacture and sale of a wide range of laundry and cleaning products, paper, personal care products, health care products, and food and beverage products, as well as a variety of products for business and industry. Procter & Gamble employs 77,000 people worldwide.

### Local Structure

Procter & Gamble has sixty-one plant locations in twenty-six states. The four major research and development centers in the United States are located in Cincinnati, OH; Memphis, TN; Norwich, NY; and Shelton, CT. Procter & Gamble also has operations in forty-six countries. There are major research centers in Brussels, Belgium; Caracas, Venezuela; Egham and Newcastle, U.K.; Osaka, Japan; Toronto, and Ontario, Canada; and Schwalbach, West Germany.

### Areas of Interest/Available Resources

The Procter & Gamble Fund is the philanthropic arm of Procter & Gamble. Procter & Gamble has a wide range of programs aimed at enriching the overall quality of life in society. Through the Procter & Gamble Fund, funds are provided for programs aimed at strengthening the educational system in the United States. In the areas of science and technology, grants are given for exploratory research in the areas of physical and biological sciences. Grants are also given to educational associations that encourage minorities and women to study science and engineering. Scholarships are granted to children of Procter & Gamble employees. The Cincinnati Youth Collaborative is aimed at improving the educational opportunities for all students in the Cincinnati area.

### Contact Arrangement

For further information or referral, contact:

James E. Allsop
Associate Director, R&D Personnel
(See above address)
(513) 627-7456

Dave L. Phillips
299 E. 6th Street
Cincinnati, OH 45202
(513) 983-3248

## S.C. Johnson and Son, Inc.

1525 Howe Street
Racine, WI 53403-5011
(414) 631-2000

### Introduction

S. C. Johnson & Son, Inc. (Johnson Wax) markets over-the-counter drugs and manufactures chemical specialty products for home, personal care, and insect control, as well as for commercial maintenance and industrial markets. Johnson Wax employs 11,500 people worldwide, with 3,500 employees in the U.S.

### Local Structure

The company's major manufacturing operations, research and development activities in the U.S. are conducted in the Racine, WI area. Principal domestic subsidiaries of Johnson Wax are: Micro-Gen Equipment Corporation (commercial chemical dispersal equipment and chemical formulations), San Antonio, TX; Johnson Venture Capital, Inc. (venture capital fund), Racine, WI; Professional Integrated Sanitation Management, Miami, FL; and Security Products Company of Delaware, Inc. (lawn and garden products). Johnson Wax maintains U.S. sales offices and distribution centers in 19 states and 22 locations.

### Areas of Interest/Available Resources

Johnson Wax supports the Johnson's Wax Fund, Inc., a private grant-making foundation that offers direct financial support to selected tax-exempt institutions and organizations. Johnson Wax also offers direct contributions of financial support and gifts of equipment, products, or services. The contributions program and support criteria are summarized in the *Annual Report, Contributions Program of S.C. Johnson & Son, Inc. and the Johnson's Wax Fund, Inc.* and *The Johnson's Wax Fund, Inc. Contributions Policy and Guidelines*. Both are available upon request from the above address.

### Contact Arrangement

For further information or referral, contact:

John Welch
Manager of New Products and Technical Evaluation Department
(see above address)
(414) 631-3122

## SRC Competitiveness Foundation

79 Alexander Drive, Building 4401
P.O. Box 12053
Research Triangle Park, NC 27709
(919) 541-9400

### Introduction

The SRC Competitiveness Foundation is an extension of the Semiconductor Research Corporation (SRC) which is a consortium of major U.S. semiconductor companies. A major thrust of the SRC is to increase the number of qualified engineers, scientists, and other technical personnel to meet the needs of the semiconductor industry. The SRC Competitiveness Foundation places a greater emphasis on programs that enhance science, mathematics, and engineering education to attract more American youth to technology-based careers.

### Local Structure

The SRC Competitiveness Foundation is housed in offices in the Research Triangle Park.

### Areas of Interest/Available Resources

SRC has invested considerable resources through fellowships and scholarships in its research program at the university level by providing research opportunities for college graduates who entered the work force with masters and doctoral degrees. Emphasis in the precollege area is designed to attract capable youth to high technology careers with the goal of providing leadership for American technology of the future. Foundation programs in the K-12 area include: teacher summer institutes hosted by industry for secondary mathematics and science teachers to provide hands-on work on the cutting edge of semiconductor technology; school system technology projects; and academic enrichment programs for students. These programs and others are devised to strengthen scientific literacy and enhance science, mathematics, and technology education in the schools.

### Contact Arrangement

For further information or referral, contact:

Ralph E. Darby
Executive Director
(See above address)
(919) 541-9400

## SRC Competitiveness Foundation - continued

Josephine D. Wallace
K-12 Program Director
(see above address)
(919) 541-9400

Virginia C. Wiggens
Educational Program Coordinator
(See above address)
(919) 541-9400

## Shell Oil Company Foundation

Two Shell Plaza
P.O. Box 2099
Houston, TX 77252
(713) 241-3616

### Introduction

The Shell Oil Company Foundation is a not-for-profit corporation established by Shell Oil Company to play a role in fostering the general well-being of the society in which it operates. The Foundation is designed to contribute to broadly beneficial philanthropies and to education. The Foundation maintains aid-to-education and partners-in-citizenship programs among its operations.

### Local Structure

The Foundation receives donations from Shell Oil Company and other participating companies that include Shell Mining Company, Shell Offshore Inc., Shell Pipe Line Corporation, Shell Western E & P Inc., Pecten Chemicals, Inc., Pecten International Company, and Pecten Middle East Services Company.

### Areas of Interest/Available Resources

Most of the Foundation's contributions are made through planned, continuing programs in support of education and of charitable activities in communities where Shell people are located. Guidelines for contributions are given in *Pattern for Giving*, available from the above address.

### Contact Arrangements

For further information or referral, contact:

Doris J. O'Connor
Senior Vice President
(see above address)
(713) 241-3616

## U.S. Chamber of Commerce

1615 H Street, N.W.
Washington, DC 20062
(202) 659-6000

### Introduction

The U.S. Chamber of Commerce (U.S. C of C) is a federation of companies, chambers of commerce, and trade/professional associations. The purpose of U.S. C of C is to advance human progress through an economic, political, and social system based on individual freedom, incentive, initiative, opportunity, and responsibility. The Chamber represents the thinking of the business community on national problems and issues affecting the economy. U.S. C of C has over 180,000 members with small firms (fewer than 100 employees) accounting for more than 85% of the membership.

### Local Structure

The U.S. C of C's membership is located throughout the U.S., which includes more than 2,000 local chambers of commerce. It is suggested that inquiries regarding chamber programs be directed to the above address.

### Areas of Interest/Available Resources

*Staff Specialists* (brochure) describes the U.S. C of C's telephone service that answers questions on legislative and federation issues and activities. Programs: *It's Your Business* (public affairs television program); films, such as "Freedom 2000" (all levels), are available from the Special Projects Division at the above address. *Business and Education: Partners for the Future* and *Making Education Our Business: The Role of Chambers of Commerce* are publications that highlight partnership projects undertaken by local chambers of commerce; give suggestions to those working toward forming local partnerships; and describe activities that are oriented toward teachers, students, administrators, adults, and the workplace. *Information Resources: A Guide to U.S. Chamber of Commerce Communication Tools* provides descriptions of available printed and audio-visual materials.

### Contact Arrangement

For further information or referral, contact:

Robert L. Martin
Manager, Human Resources
Business-Government Policy Department
(see above address)
(202) 463-5525

## United Auto Workers

8000 East Jefferson Avenue
Detroit, MI 48214
(313) 926-5000

### Introduction

The United Automobile, Aerospace, and Agricultural Implement Workers of America (UAW) is a labor union with approximately 1.1 million members. UAW members are: automotive (54.1%); agricultural implement (7%); aerospace employees (6.3%); and independents (32.6%), those members not in a distinct category. UAW works to educate its membership in the history of the labor movement, to improve legislation in the interest of working people, and to represent its members in labor negotiations and other union objectives.

### Local Structure

In the U.S. the UAW has 1,280 local unions in 38 states, Canada, and Puerto Rico. Heavy concentrations of members are in MI, IN, OH, IL, PA, and NY. UAW has 16 regional offices serving geographic clusters of members.

### Areas of Interest/Available Resources

Requests for information on local UAW programs are best directed to the local union.

### Contact Arrangement

For further information or referral, contact:

Joseph Blanding
International Representative
(see above address)
(313) 926-5256

## American Association of University Women

1111 16th Street, N.W.
Washington, DC 20036
(202) 785-7700

### Introduction

The American Association of University Women (AAUW) is a voluntary organization of more than 140,000 graduates from accredited colleges or universities throughout the United States and Puerto Rico and the Virgin Islands. AAUW promotes equity for women in education, self-development for women over the lifespan, and positive societal change.

### Local Structure

The AAUW is organized in over 1,800 community branches and 52 state divisions. AAUW recommends calling the national office for referrals or further information about activities at the state and local levels. The Association's Program and Policy Department is a central resource along with the Educational Foundation's Research and Projects Office.

### Areas of Interest/Available Resources

The AAUW Educational Foundation is the philanthropic arm of the AAUW. It provides funds to advance education, research, and self-development for women in order to foster equity and promote positive societal change. To these ends the AAUW Foundation supports a variety of grants and fellowships. For example, the Eleanor Roosevelt Fund for Women and Girls sponsors programs to address girls' needs in education. In its initial years, this fund has been used to provide fellowships for elementary and secondary school teachers to strengthen mathematics and science education for girls.

The AAUW produces several serial publications that include *Outlook* and *Leaders in Action*. The AAUW Educational Foundation publishes *Fellows' Network*, and an annual report as well as annual program announcement brochures for research and projects, grants, and fellowships.

### Contact Arrangement

For further information or referral, contact:

Tin-Swe Thant
Manager of Corporate and Foundation Development
(see above address)
(202) 728-7603

## American Association of University Women - continued

Priscilla Little
Associate for the Eleanor Roosevelt Fund
(see above address)
(202) 728-7603

Avis Davis
Staff Associate
(See above address)
(202) 728-7603

## American Association for Higher Education

One Dupont Circle, Suite 600
Washington, DC 20036
(202) 293-6440

### Introduction

The American Association for Higher Education (AAHE) is a national, broad-based association. AAHE holds two fundamental convictions: that higher education can play a more central role in our national life and that higher education can be more effective. Through an annual conference on higher education, publications, and special projects, AAHE helps members acquire a national picture of higher education and the practical tools to increase their effectiveness in their own settings.

### Local Structure

AAHE has over 7,000 individual members. They are academic administrators from all sectors; faculty seconded into citizenship roles within their campuses; researchers and analysts who think and write about higher education; representatives from government, foundations, and other education agencies. AAHE continues a long-time commitment to school-college collaboration through academic alliances. Currently about 350 academic alliances exist in 45 states.

### Areas of Interest/Available Resources

AAHE publications are *Change Magazine* and the *AAHE Bulletin*. AAHE's National Project in Support of Academic Alliances has established an organizational base and clearinghouse to: double the number of local academic alliances between school and college faculty in all disciplines and geographic areas; increase the number of participating school and college faculty; expand participation by minority faculty and faculty from elementary schools and predominantly black colleges; and broaden the advocacy base for alliances. Clearinghouse activities include: a national information network, a small grants program, advocacy activities, consultant services, and special interest programs.

The President's Forum on Teaching as a Profession is a two-year effort (1988-90) to deepen the leadership role of college and university presidents in the school reform movement, with particular emphasis on strengthening the teaching profession. The AAHE Assessment Forum, established in 1986, coordinates and advances thoughtful assessment developments across the country. Its conferences, publications, and information referral services offer members access to state-of-the-art information on assessment theory and techniques.

## American Association for Higher Education - continued

### Contact Arrangement

For further information or referral, contact:

Paula Bagasao
Director, Academic Alliances
(see above address)
(202) 293-6440

Patricia Hutchings
Director, Assessment Forum
(see above address)
(202) 293-6440

Russell Edgerton
President, President's Forum
(see above address)
(202) 293-6400

## American Association of Physics Teachers

5112 Berwyn Road, 2nd Floor
College Park, MD 20740
(301) 345-4200

### Introduction

The American Association of Physics Teachers (AAPT) goals include the advancement of the teaching of physics and the furtherance of appreciation of the role of physics in our culture. AAPT is composed of 10,200 members: 31% high school teachers, 8% two-year college teachers, 35% four-year colleges and graduate institutions, 7% students, and 19% government and industry.

### Local Structure

AAPT is organized into 46 regional sections with local officers and elected representation to the council. The sections are in many ways independent of the Association itself. A listing of sections and upcoming meetings is available from AAPT headquarters.

### Areas of Interest/Available Resources

Among the many AAPT activities are the: physics teaching resource agents (350 high school physics teachers act as resource agents to other teachers in their local areas); International Physics Olympiad (outstanding high school physics students compete with peers from other countries); U.S./Soviet Student Exchange Program (for high school students); translation of the Soviet Academy of Sciences' magazine *Kvant* for distribution among high school students (this is a joint venture with the National Council of Teachers Association and the National Science Teachers Association); use of the microcomputer in physics education (development, training, and dissemination of effective uses of the microcomputer in science education); instructional material center; and the topical conference series. AAPT is also involved with the Local Alliance Physics Project with the American Physical Society (local collaborations between secondary and tertiary instructors).

AAPT publishes *The Physics Teacher* magazine and the *American Journal of Physics* and is the primary source for information about physics teaching. The *Announcer* newsletter is the main source of information about meetings, projects, and other important events in the Association and the physics community. The *AAPT Products Catalog* of printed publications, computer software, slides, films, posters, and t-shirts is available upon request.

## American Association of Physics Teachers- continued

### Contact Arrangement

For further information or referral, contact:

Bernard Khoury
Executive Director
(see above address)
(301) 345-4200

## American Federation of Teachers

555 New Jersey Avenue, N.W.
Washington, DC 20001
(202) 879-4400

### Introduction

The American Federation of Teachers (AFT) is an international labor union with a membership of 725,000, primarily classroom teachers. The AFT works to promote collective bargaining for teachers and other education workers, to secure adequate funding for school programs, to promote academic freedom and professional autonomy, and to promote improved teaching-learning opportunities.

### Local Structure

Teachers, college professors, and other non-supervisory education personnel belong to local affiliates, as do nurses, other health-care personnel, and state and local government civil service employees. AFT has over 2,000 local affiliates that work with one another through state federations and AFL-CIO unions. Information regarding AFT local structure and membership may be obtained by writing to the Office of the Secretary-Treasurer at the above address. A statement as to how the information will be used must accompany the request.

### Areas of Interest/Available Resources

AFT has provided outreach assistance in the past, such as teacher workshops and forums. AFT also provides a variety of in-kind assistance and the AFT Learning Line, a toll-free, call-in line that offers multi-disciplinary lessons for students in grades K-12.

*American Educator* is the AFT's quarterly professional journal. *AFT Thinks It's Time Teachers Had the Right to Take Charge of Teaching* is a new report calling for the restructuring of schools and professional freedom for teachers. *AFT Members Put Ideas Into Action* is a brochure that outlines the kinds of programs needed to revitalize our nation's public schools. *Radius* is a bimonthly publication published by the Center for Restructuring by the Educational Issues Department. Among the programs listed is Community Outreach/Business Partnerships. The AFT Publication List is available upon request from the Order Department at the above address.

### Contact Arrangement

For further information or referral, contact:

Dale Boatwright
(see above address)
(202) 879-4400

## Association for Supervision and Curriculum Development

1250 North Pitt Street
Alexandria, VA 22314
(703) 549-9110

### Introduction

The Association for Supervision and Curriculum Development (ASCD) seeks to improve education by increasing leaders' knowledge and skills in the areas of curriculum development, supervision, and instruction. A third of ASCD's 140,000 members are principals and the balance is equally divided among curriculum directors, superintendents, supervisors, teachers, and professors.

### Local Structure

ASCD has affiliates in each of the 50 states. Membership in these affiliate units number over 23,000. Affiliates are also found in Germany, England, and Canada.

### Areas of Interest/Available Resources

ASCD programs focus on five major areas: educating and caring for young children, teaching thinking, restructuring the teaching profession, promoting effective leadership and supervisory behavior, and using technology for personal and organizational effectiveness. Some current projects include: strategic planning with a consortium of high schools and middle schools; member-initiated networks in such areas as staff development and learning styles; policy analysis information on such topics as graduation requirements; and a project to increase thinking skills in our nation's schools. Ongoing programs include: the National Curriculum Study Institutes (2-5 day meetings on such topics as curriculum evaluation) and working groups (research and development projects in such areas as networks and thinking skills).

Publications include: *Video Catalog* (topics are appropriate for adult training); *Educational Leadership* (journal); *ASCD Yearbook* featuring a timely topic each year; *Journal of Curriculum and Supervision* focuses upon policy issues, such as use of technology in schools; and *ASCD Products Catalog* describes books, videos and training programs, audiocassettes, and periodicals.

### Contact Arrangement

For further information or referral, contact:

Gordon Cawelti
Executive Director
(see above address)
(703) 549-9110

## Association for the Education of Teachers in Science

Auburn University
5040 Haley Center
Auburn, AL 36849-5212
(205) 844-6799

### Introduction

The Association for the Education of Teachers in Science (AETS) is an international organization devoted to the improvement of the education of teachers in science. AETS is an affiliate of the National Science Teachers Association. The 598 members primarily teach science education courses for prospective teachers, supervise graduate students in science education, or provide in-service training for elementary and secondary teachers of science.

### Local Structure

National and international AETS activities are coordinated and directed from the above address. Current regional divisions of AETS include the Northwest, North Central, Mid-Atlantic, Southeast, Southwest, eastern New England, and northern California. A listing of regional directors may be obtained from the above address.

### Areas of Interest/Available Resources

AETS publications are *Science Education* (journal) and the new *Journal of Science Teacher Education*, which includes articles on science teacher education and the *AETS Newsletter* that announcies regional and national activities. Each year the *AETS Yearbook*, which is prepared with the cooperation and assistance of ERIC/SMEAC, records position papers regarding major issues. Recent yearbook titles include: *The Psychology of Teaching for Thinking and Creativity, Improving Practices in Middle School Science; An Analysis of the Secondary School Science Curriculum and Directions for Action in the 1980s; Teaching Children Science: Changing Adversity into Advocacy; Observing Science Classrooms: Perspectives from Research and Practice; Science, Technology, and Society: Resources for Science Educators; Guide to In-Service Science Teacher Education: Research into Practice; Improving Science Teacher Education;* and *Technology and the Science Teacher.* Request publication order information from the above address.

**Association for the Education of Teachers in Science - continued**

**Contact Arrangement**

For further information or referral, contact:

Bill Baird
Executive Secretary
(see above address)
(205) 844-6799
BitNet: BBAIRD@AUDUCVAX

## Association of Science-Technology Centers

1413 K Street, N.W., 10th Floor
Washington, DC 20005-3405
(202) 371-1171

### Introduction

The Association of Science-Technology Centers (ASTC) is a nonprofit, international organization of 319 museums and related organizations dedicated to furthering the public understanding of science and technology. ASTC serves as an informational network for its members, conducts programs to improve their operations, and facilitates cooperative projects among members.

### Local Structure

ASTC's 160 member museums in the U.S. form the local core. The *ASTC Member Staff Directory* lists member addresses, telephone numbers, director's names and up to 10 key staff persons—their titles and extension numbers are available for a charge. A free list of member names only is also available.

### Areas of Interest/Available Resources

Science centers and museums contribute to improving science education in several ways. All offer school tours. Nearly all offer teacher workshops in both science content and hands-on teaching methods. Some run outreach programs, which may include vans stocked with hands-on exhibits, kits that can be rented, or auditorium-style science shows. ASTC members recently formed a network for teacher educators at museums.

ASTC and its members have worked with NACME, AAAS, the Girls Clubs of America, the National Urban League, and other community organizations to increase science center participation by minorities, women, and people with disabilities.

ASTC also sponsors the first intensive program for the leadership of new science centers. This seven-day Institute for New Science Centers addresses issues such as building strong partnerships with local businesses and schools.

A complete list of publications, and an annual report, are available from the ASTC publications coordinator, Susan McCormick, at the above address.

## Association of Science-Technology Centers - continued

**Contact Arrangement**

ASTC recommends contacting the local members directly.

For further information or referral, contact:

Bonnie VanDorn
Executive Director
(see address above)
(202) 783-7200

## Center for Applied Linguistics

1118 22nd Street, N.W.
Washington, DC 20037
(202) 429-9292

### Introduction

The Center for Applied Linguistics (CAL) is a private nonprofit organization dedicated to the study of language and the application of research in educational, vocational and social settings. CAL is known worldwide as a leading resource center for information about the latest developments in language, literacy, and bilingual education.

### Organizational Structure

The Center for Applied Linguistics is funded through contracts and grants from several different private and governmental agencies. The organization is governed by a board of trustees and staffed by a multidisciplinary staff which includes experts in language training, research, material development, assessment, and evaluation, as well as practical field experience.

### Partnership Programs and Projects

The Center for Applied Linguistics is involved in a variety of programs and projects to enhance pre-college education. These include training programs for integrating language and content instruction, particularly in mathematics and science in middle and elementary school; the development of materials for students who speak English as a second language; and the promotion of foreign language instruction in elementary schools.

As an operator of three clearinghouses, the ERIC Clearinghouse on Languages and Linguistics (ERIC/CLL), the National Clearinghouse on Literacy Education (NCLE), and the National Clearinghouse for Bilingual Education (NCBE), CAL has provided practitioners, researchers and policy makers with a forum for exchanging ideas and sharing information. They have a comprehensive collection of exemplary curriculum materials in the areas of literacy, English as a second language (ESL), bilingual education and foreign languages. CAL provides a reference and referral service, outreach and technical assistance and a variety of publications. In addition to this, CAL has developed video presentations to demonstrate innovative techniques that can be used to enhance student language skills.

## Center for Applied Linguistics - continued

### Contact Arrangement

For further information or referral, contact:

Joanne Crandall
Division Director
(see above address)
(202 429-9292

## Council for Basic Education

725 15th Street, N.W.
Washington, DC 20005
(202) 347-4171

### Introduction

The Council for Basic Education (CBE) is a national, nonprofit, independent organization committed to improving elementary and secondary education. CBE advocates a sound education in the basic subjects of the liberal arts—English, mathematics, science, history, geography, government, foreign languages, and the arts—for all students, regardless of racial or economic background. CBE has over 2,000 members and an additional 200 corporate and foundation contributors.

### Local Structure

Members of CBE are education professionals, parents, school board members, foundation officials, and other concerned citizens. The Friends of the CBE, the highest contributing members, sponsor activities in their own communities. Most CBE programs are directed from the national office in Washington, D.C.

### Areas of Interest/Available Resources

CBE's national programs promote teacher development, instigate the restructuring of school curricula, and encourage the reform of current teaching and learning methods. The Writing to Learn program, instructs teachers how to use writing as a tool for discovery, data gathering, analysis, and problem solving. Socratic Seminar instruction encourages students to assume an active role in their own learning. Fellowships for Independent Study in the Humanities (ISH) promote the teaching profession by rewarding outstanding teachers with the opportunities for summer study. CBE publications feature provocative articles on current education debate. *Basic Education*, a monthly journal, and *Perspective*, a quarterly, are CBE's regular publications. Other reports include *A Conspiracy of Good Intentions: America's Textbook Fiasco; Beyond Management: Improving Principals' Instructional Leadership;* and *New Teachers, Better Teachers.* The message of CBE reaches a wide audience through these publications, as well as speeches and presentations by CBE staff at national education events.

## Council for Basic Education - continued

### Contact Arrangement

For further information or referral, contact:

A. Graham Down
Executive Director
(see above address)
(202) 347-4171

Ruth Mitchell
Associate Director
(see above address)
(202) 347-4171

## Council for Elementary Science International

1742 Connecticut Avenue, N.W.
Washington, DC 20009-1171
(202) 328-5800

### Introduction

The Council for Elementary Science International (CESI) is a professional organization dedicated to stimulate, improve, and coordinate science teaching at all levels of the elementary school; and to promote the improvement of science programs, which begin in pre-kindergarten and develop in a continuous and integrated fashion through grade 12 and beyond. The over 1,500 members are teachers, administrators, science supervisors, college educators, museum curators, and others. CESI is an affiliate of the National Science Teachers Association.

### Local Structure

CESI does not have local units; however, it does offer affiliation status to state and local groups. Many of CESI's activities are done in collaboration with other organizations.

### Areas of Interest/Available Resources

CESI's publications include: *Sourcebook #1: Using Outdoor Areas as Learning Laboratories*; *Sourcebook #2: Expanding Children's Thinking Through Science*; *Sourcebook #3: Understanding the Healthy Body*; *Sourcebook #4: Early Childhood Activities*; *Sourcebook 5: Activities for Teaching Physical Science*; *Sourcebook 6: Down and Dirty* (earth sciences), *Heads on Science: The Challenge for the Nineties*. Order forms are available from Betty Burchett, 212 Townsend Hall, University of Missouri, Columbia, MO 65211.

### Contact Arrangement

For further information or referral, contact:

Bonnie Barr
President, CESI
Education Department
State University of New York
Cortland, NY 13045
(607) 753-2705

## Council of Chief State School Officers

279 Hall of the States
400 North Capitol Street, N.W.
Washington, DC 20001
(202) 393-8161

### Introduction

The Council of Chief State School Officers (CCSSO) is a nationwide nonprofit organization of the 56 public officials who head departments of elementary and secondary education in every state, U.S. extra-state jurisdictions, and the District of Columbia. CCSSO seeks its members' consensus on major education issues and expresses their views to civic and professional organizations, federal agencies, Congress, and the public.

### Local Structure

CCSSO responds to concerns about education issues through its structure of special committees and projects. CCSSO members are the chief education administrators within each state and territory.

### Areas of Interest/Available Resources

CCSSO is presently conducting a project to develop and improve state-level indicators and data on science and mathematics education. During the 1988-89 school year, states collected and reported data on key indicators of science and mathematics education at the secondary level, including high school course enrollments and teacher qualifications. The first report, *State-by-State Indicators of Science and Mathematics Education: Preliminary Report*, was released fall, 1989. This publications and others, *State Policies Related to Science and Mathematics Education* and *Indicators of Science and Mathematics Education: Providing Tools for Policymakers* are available for $2.00 each. *The Council* (brochure) describes CCSSO and its special projects, lists available publications, and identifies committees and their members. Direct requests for information and publications to the above address.

### Contact Arrangement

For further information or referral, contact:

Rolf Blank
Director, Math/Science Indicators Project
(see above address)
(202) 624-7700

## Council of State Science Supervisors

Old Capitol Building
Olympia, WA 98504
(206) 753-6757

### Introduction

The Council of State Science Supervisors (CSSS) strives to strengthen the leadership role of state science supervisors by interacting cooperatively with others interested in the improvement of science education. Major activities include the development of effective programs of science instruction through such means as providing a forum for the exchange of ideas and dissemination of information, identifying needs and problem areas in science education systematically, initiating or assisting in the design of national and regional studies, and disseminating the results of studies and solutions to problems. The 88 members are those having specific responsibility for science education in the Department of Education of any of the 50 states, a territory of the U.S., the District of Columbia, or Puerto Rico.

### Local Structure

Services and information are available from the CSSS president or the respective Department of Education science supervisors. CSSS is a division affiliate of the National Science Teachers Association.

### Areas of Interest/Available Resources

CSSS provides services and information that include: state certification standards for science teachers, supply/demand data for science personnel, state curriculum mandates and guidelines, science course enrollments, state high school graduation requirements in science, and names and addresses of science/education organizations and personnel.

### Contact Arrangement

For further information or referral, contact:

William Spooner
President, CSSS
Public Instruction
116 West Edenton Street
Raleigh, NC 27603
(919) 733-3694

# International Technology Education Association

1914 Association Drive
Reston, VA 22091
(703) 860-2100

## Introduction

The International Technology Education Association (ITEA) is devoted to promoting technological literacy through leadership, professional development, and services. Most of the 7,500 members are technology educators.

## Local Structure

ITEA has affiliates in every state. They have provided outreach assistance in the past, largely on a case-by-case basis. The ITEA recommends that inquiries first be directed to the local affiliates and then to the national level.

## Areas of Interest/Available Resources

Publications: *Resources in Technology* (supplementary material for the high school curriculum); *Impacts of Technology* (teacher resource); *Technology Resource Package: Time Lines, Spin-Offs, and Alternative Charts Materials for the Technology Class.*

## Contact Arrangement

For further information or referral, contact:

Kendall Starkweather
Executive Director
(see above address)
(703) 860-2100

## National Action Council for Minorities in Engineering

3 West 35th Street, 3rd Floor
New York, NY 10001
(212) 279-2626

### Introduction

The National Action Council for Minorities in Engineering, Inc. (NACME) is a nonprofit organization designed to increase the number of underrepresented minorities—Afro-Americans, Hispanics (particularly Mexican Americans and Puerto Ricans) and American Indians—who earn bachelor degrees in engineering. One of NACME's long-range goals is to increase such graduates 10% by the year 1996.

### Local Structure

NACME provides financial assistance to minority students through more than 100 engineering colleges. It also targets high density minority communities for establishing precollege programs. Handbooks on both college retention and precollege program initiation are available from NACME headquarters.

### Areas of Interest/Available Resources

NACME resources include: an incentive grants program, which provides scholarships to minority engineering students through the university system; the Summer Engineering Employment Project assists companies in locating and hiring minority engineering students and building relationships and contacts for future employment needs; field services provides grants for initiating new college and precollege programs, as well as technical assistance in how to start and manage these programs; the research area collects and analyzes data on minority engineering and the Communications Department publishes materials for students, parents, educators, and corporate supporters. Publications include: *Design for Excellence* (a how to study guide); *Gearing Up: How to Start a Precollege Minority Engineering Program*; *Improving the Retention and Graduation of Minorities in Engineering*; and *Academic Gamesmanship: Becoming a 'Master' Engineering Student*. NACME's annual report is available upon request.

### Contact Arrangement

For further information or referral, contact:

Ronni Denes
Director of Communications
(see above address)
(212) 279-2626

## National Association for Research in Science Teaching

402 Teachers College
University of Cincinnati
Cincinnati, OH 45221
(513) 475-2335

### Introduction

The National Association for Research in Science Teaching (NARST) strives to promote research in science education at all educational levels and disseminates the findings of this research in such ways as to improve science teaching. NARST encourages the presentation of a wide variety of scholarly papers reporting investigations in all aspects of science education, including action, historical, philosophical, ethnographic, experimental, and evaluative studies. Thus, reports of empirical research, critical reviews, and theoretical works are encouraged. NARST is affiliated with the National Science Teachers Association and the American Association for the Advancement of Science. NARST has 635 members who are teachers, supervisors, and curriculum developers interested in research in science education.

### Local Structure

NARST activities are directed from the above address. NARST publishes a register/directory that describes the current research interests of its members.

### Areas of Interest/Available Resources

NARST publishes the *Journal of Research in Science Teaching* and a quarterly newsletter. NARST cooperates with the ERIC Clearinghouse for Science, Mathematics, and Environmental Education (SMEAC) located at the Ohio State University (address below) to conduct and publish reviews of research in science education at the elementary, secondary, and college levels and to compile and publish the abstracts of research papers presented at the NARST annual meeting. Some of the research areas of interest to NARST include: curriculum development and organization, evaluation, learning theory, teacher education programs for the talented and the handicapped, and methods of instruction in science.

## National Association for Research in Science Teaching - continued

### Contact Arrangement

For further information or referral, contact:

Dr. William Holliday
Representative, NARST
University of Maryland
Science Teaching Center
College Park, MD 20742
(301) 454-7346

Jane Kahle
President
Condit Professor of Science Education
Miami University
Oxford, OH 45056
(513) 529-1686

## National Association of Biology Teachers

11250 Roger Bacon Drive, #19
Reston, VA 22090
(703) 471-1134

### Introduction

The National Association of Biology Teachers (NABT) is the only national association specifically organized to assist teachers in the improvement of biology education. NABT has more than 10,000 individual and institutional members. The 7,000 individual members are primarily biology educators in elementary, middle/junior high (5%), secondary schools (70%), and colleges (25%).

### Local Structure

NABT has twelve affiliated state and regional organizations. In addition to these affiliates, NABT has established ten regions, each of which is led by an elected regional coordinator. Each state within the ten regions has an appointed NABT representative.

### Areas of Interest/Available Resources

NABT programs: Outstanding Biology Teacher Award (state and national recognition); two-year college and four-year college award programs; student science fair award program (regional and state science fairs); seminars (teacher updates); and electronic bulletin board (nationwide service for teachers). Publications: *The American Biology Teacher* (journal); *News and Views* (newsletters); *NABT Guidelines for the Use of Live Animals*; *Biotechnology, Genetic Engineering and Society*; *Responsible Use of Animals in the Classroom, including Alternatives to Dissection; Marine Biology & Oceanography; Careers in Biology: A Challenge* (brochure); policy statements on scientific integrity, professional ethics, teaching standards, and dissection; and a publication list that is available from the above address.

A recent joint project with the National Science Teachers Association developed a standardized biology test (high school). Two large scale NSF-supported projects are now underway: one is a midde school teacher training program and the other a biotechnology equipment loan program.

## National Association of Biology Teachers - continued

### Contact Arrangement

For further information or referral, contact:

Patricia McWethy
Executive Director
(see above address)
(703) 471-1134

## National Association of Geology Teachers, Inc.

P.O. Box 368
Lawrence, KS 66044
(913) 843-1234

### Introduction

The National Association of Geology Teachers, Inc. (NAGT) offers opportunities for personal advancement, professional growth, collegial interchanges, and obtaining practical information for teachers of earth science. Most of the 1,800 NAGT members are college and junior college teachers. University and high school teachers also belong.

### Local Structure

NAGT activities are directed by the president (address below), from the business office (address above), or through the eleven geographic sections.

### Areas of Interest/Available Resources

NAGT publications include: *Journal of Geological Education* for earth science and geology teachers; *Personal Computer Software for Geological Education*; and *AGI Geology Lab Manual* (a joint project with AGI).

### Contact Arrangement

For further information or referral, contact:

Dorothy Stout
President
Physical Sciences Department
Cypress College
9200 Valley View Street
Cypress, CA 90630
(714) 826-2220

## National Council of Teachers of Mathematics

1906 Association Drive
Reston, VA 22091
(703) 620-9840

### Introduction

The National Council of Teachers of Mathematics (NCTM) is concerned with the improvement of mathematics education in elementary schools, junior and senior high schools, two-year colleges, and teacher-education colleges. NCTM membership is nearly 78,000 and is available to individuals and institutions interested in mathematics, the teaching of mathematics, and related problems.

### Local Structure

NCTM has 220 affiliated groups that take the form of city, area, and state/provincial councils. NCTM recommends contacting the local council for assistance or calling the national office for referral.

### Areas of Interest/Available Resources

NCTM provides information and guidelines for preparation of teachers, mathematics curriculum issues, instructional aids, careers in mathematics, mathematics clubs and contests, technology, metrication, and general resources identification. Publications: yearbooks that address the teaching of mathematics such as *The Ideas of Algebra, K-12*; *Arithmetic Teacher* (journal for teachers of K-8 grades); *Mathematics Teacher* (journal for secondary teachers); *Multicultural Mathematics Posters and Activities* (teacher activity book); and *A Sourcebook for Applications of School Mathematics* (secondary teachers).

NCTM works cooperatively with other organizations on numerous projects. One such collaboration is the American Mathematics Project with the Mathematical Association of America.

### Contact Arrangement

For further information or referral, contact:

James D. Gates
Executive Director
(see above address)
(703) 620-9840

## National Earth Science Teachers Association

P.O. Box 53314
Washington, DC 20009
(202) 328-5800

### Introduction

The National Earth Science Teachers Association (NESTA) promotes the advancement, stimulation, extension, improvement, and coordination of earth science education at all educational levels. Members are actively engaged in the teaching of earth science and are particularly interested in precollege earth science education. With over 900 members, NESTA is an associated member of the National Science Teachers Association (NSTA) and is a member of the American Geological Institute (AGI).

### Local Structure

NESTA is divided into five geographic regions. A list of the state contact persons is available.

### Areas of Interest/Available Resources

NESTA provides outreach assistance through sessions at the NSTA convention and field trips for teachers. NESTA publishes scripted slide sets (grades 7-12), operates a clearinghouse for earth science software, and offers a duplication service for public domain programs written by members. NESTA recently worked with NSTA and AGI on the development of a national earth science test for grades 9-12. Publications include: *Summer School for Earth Science Teachers* (annually describes available enrichment opportunities); *The Earth Scientist* (journal); and "NESTA Slide Sets" (order form).

### Contact Arrangement

For further information or referral, contact:

Harold Stonehouse
Department of Geological Sciences
Michigan State University
East Lansing, MI 48824
(517) 355-4661

Michael Burton
President
340 Prairiewood Circle
Fargo, ND 58103
(701) 241-9818

## National Education Association

1201 Sixteenth Street, N.W.
Washington, DC 20036-3290
(202) 833-4000

### Introduction

The National Education Association (NEA) is a membership organization that advances the cause of education for all individuals, promotes professional excellence among educators, and gains recognition of the basic importance of the teacher in the learning process and other employees in the educational effort. In addition, NEA serves as a union to protect and enhance the rights of educators. NEA has approximately 1.9 million members who are actively engaged in the profession of teaching or in other educational work or are interested in advancing the cause of public education.

### Local Structure

NEA has 15,000 local affiliates in the 50 states along with six regional offices. The NEA is autonomous on the local level in its ability to provide outreach assistance, and the national office largely coordinates special projects with the state affiliates. The *NEA Handbook* identifies state and local affiliates and is available from NEA headquarters upon request.

### Areas of Interest/Available Resources

NEA activities include: Mastery in Learning Project (focuses on empowering and assisting teachers in developing strategies for increasing student learning) and teacher preparation programs (initiatives to improve teacher education). Programs of the National Foundation for the Improvement of Education, the NEA foundation, include: Operation Rescue (initiative to resolve the dropout crisis—provides grants, disseminates information, and facilitates collaborative efforts between schools and communities); Christa McAuliffe Institute for Educational Pioneering (program to stimulate exploration into the art and science of teaching—theme for 1988-89 is "Creative Uses of Technology in Education"); and Educational Applications of Technology (program to stimulate and support use of technology to enhance classroom instruction, curriculum management, and administration). NEA also advocates partnerships for education reform with business, other organizations, and parents. A publications catalog that includes videotapes, filmstrips, and printed materials from the NEA professional library is available from the headquarters upon request.

## National Education Association - continued

### Contact Arrangement

The best method for reaching the NEA is to contact the local education association president or the NEA local affiliate office directly. They can be located by consulting the local telephone directory or the local board of education. Contact the national office if difficulties are encountered.

For further information or referral, contact:

Warlene Gary
Manager, Education and Outreach
(see above address)
(202) 822-7091

## National Energy Foundation

5160 Wiley Post Way, Suite 200
Salt Lake City, UT 84116
(801) 539-1406

### Introduction

The National Energy Foundation (NEF) is a nonprofit education organization providing energy-enriched science, technology and society programs, and materials to help promote an awareness of energy related issues among our school populations. The Foundation further provides educational resources on other contemporary issues of interest and concern. Its membership is largely drawn from science educators and representatives from the private sector.

### Local Structure

NEF currently has 10 active field-based teams in the states of NJ, MO, TX, FL, NC, MT, UT, AZ, NV, and WA. State or area coordinators manage and deliver localized programs as part of the NEF local network.

### Areas of Interest/Available Resources

NEF local groups provide programs such as teacher training workshops, as well as activities, which are aimed directly at students. Educator activities include, but are not limited to: awareness programs, implementation workshops, teacher/student conference, preservice teacher workshops, university credit programs, seminars and lectures, "make and take" workshops, issues and special topics workshops, and exhibits. Student activities include: awards program, exposition on energy resources, and teacher/student conferences.

Corporations, government agencies, and businesses may contract with NEF to provide specific programs and distribute materials. NEF receives its funding from and works very closely with the private sector, and a large amount of its programming is done through partnerships with the private sector. The local chapters have considerable autonomy, but the goals reflect the combined interests of the local organization, the national foundation, and the private sector or government sponsor.

NEF also conducts numerous custom curriculum development projects for various sponsors. More than 75 educational materials are available through NEF's product line. A complete catalog of materials, publications, and resources is available by contacting the national office. New resources include: *Decisions for Today and Tomorrow: Issues in Science-Technology-Society* (a multidisciplinary ap-

## National Energy Foundation - continued

proach to problem solving and critical thinking), *Energy Projects for Young Scientists* (designed for teachers and students to assist with energy-related science and technology projects), and Energy Technology and Society (a new education program with a renewable energy focus). Several new products have recently been developed.

### Contact Arrangement

For further information or referral, contact is most easily facilitated through the national office. A complete list of resources, services, and prices may be obtained by writing NEF.

Edward A. Dalton
President and CEO
(see above address)
(801) 539-1406

## National Science Supervisors Association

P.O. Box AL
Amagansett, NY 11930
(513) 267-3692

### Introduction

The National Science Supervisors Association (NSSA) stimulates and aids in the development of efficient and effective supervisory practices as a means to improve science education. NSSA facilitates communication among and provides opportunities for science supervisors to discuss and to take action on matters of common interest and concern. Membership is open to all who are concerned with and interested in the improvement of science instruction. NSSA has about 1,000 members who are science supervisors serving in the capacity of department chairpersons, coordinators, specialists, supervisors, consultants, administrators, and others concerned with leadership in science education at the elementary, middle, secondary, community college, four-year college, and university levels. NSSA is affiliated with NSTA, AAAS, AEE, USEA and ICASE.

### Local Structure

NSSA has affiliate supervisor associations on the state, county, and local levels throughout the U.S. A membership directory listing NSSA committees, affiliates, and members is available. For NSSA membership information, contact the executive secretary. For LISE (Leaders in Science Education) Center information, contact the NSSA national/LISE director.

### Areas of Interest/Available Resources

NSSA programs and resources include: Thomas Edison/Max McGraw Scholarship to give recognition to students who demonstrate inventive genius; computer software and videotape exchange libraries; NSSA Outstanding Science Supervisor and Presidential Rewards; and Science Leadership Institute for prospective, neophyte, and veteran supervisors. NSSA has close ties and works directly with other organizations on projects, including the U.S. Department of Education's National Center for Improving Science and the National Geographic Society's Kids Network. NSSA publications are: *Newsletter* (ideas and techniques in supervision); award and participation certificates for students; *Sourcebook for Science Supervisors, Journal of Supervision; Software Directory* and *Videotape Directory.*

The NSSA operates the Leadership Institute for Science Education or LISE Center. The mission of the Center is to promote science leadership development programs and resources. Districts, resource centers, corporations and other educational entities may affiliate to

**National Science Supervisors Association - continued**

receive services. Included are two newsletter publications, *The LISE Letter*, and *Leadership Trend Notes*. The Center sponsors Curbstone Clinics and other programs across the country for supervisors and districts.

## Contact Arrangement

For further information or referral, contact:

Kenneth Russell Roy
NSSA National/LISE Director
Copernicus Hall (Suite 227-228)
Central Connecticut State University
1615 Stanley Street
New Britain, CT 06050
(203) 827-7981

Constance Tate
609 Delafield Place, N.W.
Washington, DC 20011
(202) 882-0387

Robert Fariel
NSSA Executive Secretary
P.O. Box AL
Amagansett, NY 11930
(516) 267-3692

## National Science Teachers Association

1742 Connecticut Avenue, N.W.
Washington, DC 20009
(202) 328-5800

### Introduction

The National Science Teachers Association (NSTA) is dedicated to improving science teaching at all levels—preschool through college. Its membership is composed of over 31,000 science teachers and over 12,000 member institutions. Nearly 50% of the individual members are secondary science teachers, nearly 25% are elementary teachers, and less than 1% are university or college professors.

### Local Structure

NSTA chapters are found in nearly every state aligning with several associated and interested associations and groups in each state. NSTA division affiliates include: Association for the Education of Teachers in Science, Council for Elementary Science International, Council of State Science Supervisors, National Association for Research in Science Teaching, National Science Supervisors Association, and Society for College Science Teachers. The *NSTA Handbook* is a complete listing of members that serve on the board of directors, headquarters staff, standing committees, convention planning, advisory boards, task forces, panels, special representatives, state chapters, and affiliated groups and is available for $3 by writing NSTA headquarters at the above address.

### Areas of Interest/Available Resources

NSTA has ongoing programs in the following areas: teacher certification and training (K-12 teachers apply for subject-matter certification), position statements (i.e., women in science and teacher certification and preparation), employment registry (at national and regional conventions), science assessments (student tests in physics, biology, chemistry, and earth science), and special projects and awards. NSTA special projects and awards include: Presidential Award for Excellence in Science and Mathematics Teaching (two teachers from each state), Duracell Scholarship Competition (for high school students), NASA Education Workshops for Math and Science Teachers (two-week summer experiences at NASA facilities), NASA Student Shuttle Involvement Project (students design experiments for space shuttle and space station), Search for Excellence in Science Education (identification of exemplary teaching programs), the Wee Wonders (video series for young children aimed for public television), and several others. NSTA has many publications and other resources for teachers, students, and administrators listed in the *Publications and Membership Catalog*, which is available free upon request.

## National Science Teachers Association - continued

### Contact Arrangement

For further information or referral, contact:

Bill Aldridge
Executive Director
(see above address)
(202) 328-5800

## Oak Ridge Associated Universities

P.O. Box 117
Oak Ridge, TN 37831-0117
(615) 576-3000

### Introduction

The Oak Ridge Associated Universities (ORAU) is a not-for-profit consortium of 55 universities and a federal laboratory. ORAU is a managing and operating contractor for the U.S. Department of Energy. It conducts research and educational programs in the areas of energy, health, and environment for DOE, member institutions, other colleges and universities, and other private and governmental organizations.

### Local Structure

As a management and operating contractor for the United States Department of Energy, ORAU works with a number of federal agencies, such as the Department of Defense, Department of Commerce, Department of the Interior, and the Food and Drug Administration. The 55 member institutions, primarily in the southeast, are located in AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, MO, ND, OK, PR, SC, TN, TX, VA, WV.

### Areas of Interest/ Available Resources

ORAU precollege education activities focus in the Science/Engineering Education Division (SEED). The objectives of this division are to increase the supply of scientists and engineers; broaden the participation of minorities, women, and the disabled in science and engineering careers; enhance teacher preparation and faculty development; improve science and engineering education; strengthen cooperation between the academic community and federal laboratories; and provide technical assistance to federal agencies and laboratories. One program is the Science Teacher Research Involvement for Vital Education (STRIVE). This program provides an opportunity for secondary science and mathematics teachers to spend eight weeks in the Oak Ridge National Laboratory, engaging in research and in workshops on how to use their scientific work in their classroom teaching.

The ORAU user's guide is produced annually and describes each program in detail. Order the guide from National Technical Information Service, U.S. Department of Commerce, 52 Port Royal Road, Springfield, VA 22161.

## Oak Ridge Associated Universities - continued

### Contact Arrangement

For further information or referral, contact

Alfred Wohlpart
Science/Engineering Education Division Vice President
  and Chairman
(see address above)
(615) 576-3350

## PBS Elementary/Secondary and Adult Learning Services

Public Broadcasting Service
1320 Braddock Place
Alexandria, VA 22314-1698
(703) 739-5019

### Introduction

The PBS Elementary/Secondary and Adult Learning Services are two education units within the Public Broadcasting Service (PBS), a membership organization of 338 public television stations nationwide. Their purpose is to help PBS and its member stations achieve their education missions by developing and distributing educational programs and services. Goals include: providing programming and ancillary materials to meet a variety of educational needs of the following kinds: specific instruction; supplemental classroom and library resources; informal learning materials across the spectrum from pre-school to post-retirement; awareness about and support for outreach activities to address education problems; and the use of television and other technologies to foster a learning society.

More than 1,500 colleges and universities have offered college credit television courses through Adult Learning Service (ALS) since its launch in fall 1981, and an approximately equal number has used other supplemental materials and services.

Nearly thirty million children in schools across the country have access to a variety of instructional programs offered through the Elementary/Secondary Service (ESS) each year, and over one-third of the nation's teachers have used instructional television to enhance their teaching.

### Local Structure

The 338 public television stations reach more than 98 percent of all the television households and virtually all of the schools, colleges, and libraries in the United States. Most of the stations have a director of education services who works directly with local schools and an adult learning liaison who works with local colleges. Stations use ALS and ESS programs and services as a basic part of their educational agenda; at the same time each develops a total educational program based on the particular station mandate and the community needs. Additionally, both ALS and ESS work directly with schools and colleges through direct satellite delivery of programs and services. A directory of PBS and National Public Radio member stations is available from the Corporation for Public Broadcasting, 1111 E Street, N.W., Washington, DC 20004, for $10.00 plus $2.00 for postage.

## PBS Elementary/Secondary and Adult Learning Services - continued

### Areas of Interest/Available Resources

ALS and ESS are interested in developing and distributing, via broadcast and other technologies, full-credit courses at every level of formal education; informal and continuing education programs; supplemental materials to support schools, colleges, and libraries, including full programs, video segments, print and computer ancillary materials, and electronic information services; and programming, materials, and services for informal home learners. Among the variety of available materials are: *The Agenda* (ALS newsletter); *ESS Newsletter*; *Learning File* (quarterly publication of the PBS Education Clearinghouse); "Introducing the Adult Learning Satellite Service" (description of the new direct satellite service for colleges and universities); *ESS Catalog of K-12 Programming*; tune-in guides (descriptions of PBS programming published seasonally six weeks ahead of air with pertinent information about rights and materials); compendia about copyright regulations, the environment, and resource materials about AIDS; detailed information about each college course in the ALS course schedule (published seasonally nine months in advance of air); the ALS schedule (published seasonally six months ahead of air); and a principal's guide for setting up and fostering the use of video in a school.

Program series include: FUTURES, a science/math series featuring Jaime Escalante; two science series for middle schools, THE VOYAGE OF THE MIMI, I AND II; and several college credit courses, THE BRAIN; THE MIND; AGAINST ALL ODDS (STATISTICS); PLANET EARTH; THE EARTH EXPLORED; OUT OF THE FIRY FURNACE (a history of science, technology, and metals); and THE MECHANICAL UNIVERSE AND BEYOND (a two semester physics course).

### Contact Arrangement

For further information or referral, contact:

Joan H. Katz
Director, Elementary/Secondary Services
(see above address)
(703) 739-5019

## Scholastic Inc.

730 Broadway
New York, NY 10025
(212) 505-3000

### Introduction

Scholastic Inc. operates a TV production company and publishes magazines, books, and classroom software. The Educational Periodicals Division publishes magazines for precollege students and teachers of various disciplines.

### Areas of Interest/Available Resources

Scholastic publications include: *Let's Find Out* (magazine for kindergarten); *Scholastic News* (current events magazine with separate editions for grades 1-6); *Science World* (monthly magazine for grades 7-10); *Study Science* (elementary science workbook series); *DynaMath* (magazine for grades 4-6); and science film strips (grades 1-6). Each of these publications has supplemental material for teachers. Computer software includes: "Operation: Frog;" databases for life and physical sciences; and "Weather and Climate Lab" datafiles for use with *AppleWorks*. Scholastic Inc. publishes 29 classroom magazines for students, five magazines for teachers and supervisors, and *Family Computing* for the general public.

Beginning with the 1989-90 academic year, Scholastic, with the help of NSF, will publish two new elementary science magazines entitled *SuperScience*, a 32-page monthly magazine for students in grades 4-5 and a 4-page weekly for students in grades 1-3. *SuperScience* also includes teacher support material and computer software programs.

### Contact Arrangement

For further information or referral, contact:

Ernie Fleishman
Editorial Director, Science and Math
(see above address)
(212) 505-3132

## School Science and Mathematics Association

126 Life Science Building
Bowling Green State University
Bowling Green, OH 43403
(419) 372-7393

### Introduction

The School Science and Mathematics Association (SSMA) was founded in 1901 for the purposes of disseminating research findings and its implications for school practice. Its membership is made up of educators involved in pre-college science and mathematics education and teacher educators in science and mathematics.

### Local Structure

The SSMA has a national structure. The executive office is located at Bowling Green State University and the editorial office is housed at the Kansas State University.

### Areas of Interests/Available Resources

The SSMA identifies and solves common problems regarding instructional or curricular matters and deals with issues facing educators in the sciences and mathematics. It holds an annual two-day national convention every fall which is attended by educators in mathematics and science.

The SSMA publishes the journal, *School Science and Mathematics*, eight times a year, and the quarterly *SSMArt Newsletter*. These publications address issues of interest to science and mathematics teachers in grades K-16. The articles are balanced between mathematics and science with most of the emphasis on the precollege years.

The SSMA also occasionally publishes monographs. Some of the titles in two series of monographs are: SSMA Classroom Activities Monograph Series, *Activities for Teaching K-6 Math/Science Concepts*, and *Problem Solving with Number Patterns*; SSMA Topics for Teachers Monograph Series, *Science and Mathematics Education for the Year 2000 and Beyond*, *Microcomputers for Teachers - with Application to Science and Mathematics*, *Interactions of Science and Mathematics*, and *Cryptarithms and Other Arithmetical Pastimes*.

## School Science and Mathematics Association - continued

### Contact Arrangement

For further information or referral, contact:

Darrel W. Fyffe
Executive Secretary
(see above address)
(419) 372-7393

Dr. Larry G. Enochs
Editor, *School Science and Mathematics*
247 Bluemont Hall
Kansas State University
Manhattan, KS 66506
(913) 532-7687

## Science Service, Inc.

1719 N Street, N.W.
Washington, DC 20036
(202) 785-2255

### Introduction

Science Service, Inc. is a nonprofit corporation whose main goals are to communicate new developments and applications in science to the public and encourage precollege students' interest in science, which may lead them to a future career in science.

### Local Structure

Science Service activities are primarily national in scope and are directed from the above address.

### Areas of Interest/Available Resources

Science Service directs and coordinates several programs including the 49-year old Westinghouse Science Talent Search, which is a national scholarship program where the decision is made on the basis of an independent research project done by a 12th grader rather than on academic achievement. The student research projects are in science, mathematics, and engineering.

Science Service also participates in the 41-year old International Science and Engineering Fair (ISEF), which is a program known as the "World Series of Science Fairs." The student contestants (9th-12th grade) come from over 400 affiliated science fairs. The ISEF is held annually in a different city in May of each year (Tulsa—1990, Orlando—1991, Nashville—1992, Gulfport—1993). The ISEF includes special awards given by over 50 organizations that include scientific societies, governmental organizations, and corporations.

*The Directory of Student Science Training Programs for High Ability Precollege Students* lists programs designed to provide talented precollege students with opportunities in science, engineering, and mathematics beyond those normally available in laboratory work or in course work in the students' schools. It is published annually, and the 1990 *Directory* has 700 listings. The *Directory* is available for $3.00 upon request.

*Thousands of Science Projects* (for all grade levels) lists 7,000 project titles based on projects entered in the Westinghouse Science Talent Search and the International Science and Engineering Fair. It is used as an idea source for students trying to decide on what they will do for a research project. Other publications include: *Abstracts: 40th*

## Science Service, Inc. - continued

*International Science and Engineering Fair; Abstracts: 39th International Science and Engineering Fair; Suggestions for Science and Engineering Fair Projects; Information on Careers and Scholarships in Science and Engineering; Educational Aids Available from Science Service*, and a descriptive Science Service brochure.

The primary public understanding of science activity from Science Service is through the publication *Science News*, a weekly magazine with a circulation of over 200,000. While largely read by scientists for news out of their own fields of specialty, and by interested non-scientists, the magazine is also used by many teachers at the precollege and college level as a supplement to instruction. Direct inquiries to the above address.

**Contact Arrangement**

For further information or referral, contact:

E. G. Sherburne, Jr.
President
(see above address)
(202) 785-2255

## ScienceWorks

10 Long Pond Road
Armonk, NY 10570
(914) 273-2226

### Introduction

ScienceWorks is a new company that is dedicated to improving science education in America. By working with top educators, scientists, and corporate leaders, ScienceWorks develops state-of the-art science programs for elementary school use. These programs are made available to schools through corporate support.

### Local Structure

ScienceWorks is an effective program which corporations can support to improve science education in their local schools. School principals, science coordinators, and teachers become involved.

### Areas of Interest/Available Resources

The goals of the program are to: 1) increase science literacy for all children; 2) enhance the quality and quantity of science time taught in the elementary school classroom; and 3) make children aware of the range of career opportunities available in science-related fields. The ScienceWorks programs enhance the elementary school science curriculum.

### Contact Arrangement

For further information or referral, contact:

Tom Laster
President
(see above address)
(914) 273-2226

## Technical Education Research Centers

2067 Massachusetts Avenue
Cambridge, MA 02140
(617) 547-0430

### Introduction

The Technical Education Research Centers (TERC) is a nonprofit organization committed to improving the quality and accessibility of education for students with diverse skills and backgrounds. TERC is internationally recognized for work in advancing creative uses of technology in education, strengthening science and mathematics education, developing imaginative software and hardware tools for all students, and increasing equitable opportunities for females, minorities, and disabled learners.

### Local Structure

The National Geographic Society Kids Network and other project collaborations form an informal local structure for TERC.

### Areas of Interest/Available Resources

TERC programs include: the National Geographic Society (NGS) Kids Network Project (elementary school students conduct science experiments and share results via telecommunications); Modeling Project (secondary students build quantitative models of scientific and social issues); microcomputer-based laboratory (students measure physical phenomenon using computer-linked problems); integration of technology into special education (research to integrate computers into the curriculum for special needs students at the middle school level); Microcomputers and Special Education: Beyond Drill and Practice (research, training, and dissemination to increase access to innovative educational software for children with learning and emotional handicaps); science courseware adaptation (software for elementary science curriculum designed for disabled students); Computers in Education: A Question of Access (development of computer literacy software and slide-tape to counteract access barriers for girls); Nontraditional Occupations for Women (model training programs to prepare women for skilled and technical occupations); Used Numbers (K-6 curriculum modules to children how to effectively solve real life problems using mathematics); evaluation of the laboratory for making things (development of tools to assess learning strategies of urban elementary school children); and evaluation of a special education "classroom of the future" (a study that focuses on helping the special education community develop more meaningful instructional uses of the computer. As a result of the Nontraditional Occupations of Women Project, two handbooks for educators are available: *The Nuts and Bolts of NTO* and *Time for a Change*.

## Technical Education Research Centers - continued

### Contact Arrangement

For further information or referral, contact:

Robert Tinker
Director
(see above address)
(617) 547-0430

## National Aeronautics and Space Administration

400 Maryland Avenue, S.W.
Washington, DC 20546
(202) 453-1000

### Introduction

The National Aeronautics and Space Administration (NASA) is a federal agency aimed at advancing scientific knowledge of the planet Earth, the solar system, and the universe beyond; expanding human presence beyond Earth into the solar system; and strengthening aeronautics research and advancing technology to promote U.S. leadership in civil and military aviation. NASA employs 25,237 people and has contractual relationships with approximately 2,000 industries.

### Local Structure

NASA research centers with education offices include: NASA HQ, Washington, DC; Ames Research Center, Moffett Field, CA; Jet Propulsion Laboratory, Pasadena, CA; Goddard Space Flight Center, Greenbelt, MD; Johnson Space Center, Houston, TX; Kennedy Space Center, FL; Langley Research Center, Hampton, VA; Marshall Space Flight Center, Huntsville, AL; Lewis Research Center, Cleveland, OH; and John C. Stennis Space Center, MS. The education services officer at each of these centers may be contacted directly.

### Areas of Interest/Available Resources

NASA's educational activities focus on a consistent set of aerospace educational programs to help ensure a future work force skilled in preserving the role of the U.S. as a leader in aeronautics, space science, and technology. NASA Educational Affairs Division, NASA HQ, has recently identified five programmatic priorities: elementary education, teacher education, underrepresented minority participation, educational technology, and the Aerospace Education Services Project. Educational activities include: AESP—Aerospace Education Services Project (lecturers travel to schools to provide demonstrations and in-service teacher workshops); teacher resource centers (dissemination points for the NASA collection of audiovisual and printed materials for educators); Spacelink (electronic bulletin board with NASA news and resources); NEWMAST—NASA Education Workshops for Math and Science Teachers (a two-week, center-based activity for elementary teachers); NEWEST—NASA Education Workshops for Elementary Science Teachers (two-week activity for elementary teachers); SSIP—Space Science Student Involvement Program (annual competition for 6th-12th grade students); UCEP—Urban Community Enrichment Program (intensive three-day activities for urban

**National Aeronautics and Space Administration - continued**

school districts); SHARP—Summer High School Apprenticeship Research Program (underrepresented minority students to work with mentors); Lunar Sample Education Project (teacher handling certification and lunar sample loans to teachers); science fairs (student trips to NASA centers awarded to NASA winners); and the *NASA Report to Educators* (a quarterly periodical of the Educational Affairs Division). In addition, one of NASA's institutional priorities is the formation of educational partnerships with industry, educational organizations, and universities. The "NASA Educational Publications List" is available upon request from headquarters or local centers.

**Contact Arrangement**

For further information or referral, contact:

Eddie Anderson
Chief, Elementary and Secondary Programs Branch
(see above address)
(202) 453-8396

Education officers at the NASA centers and the states they serve:

For AK, AZ, CA, HI, ID, MT, NV, OR, UT, WA, WY:
Garth Hull
NASA Ames Research Center
Stop 204.7
Moffett Field, CA 94035
(415) 694-5543

For CT, DE, DC, ME, MD, MA, NH, NJ, NY, PA, RI, VT:
Elva Bailey
Code 130.3
NASA Goddard Space Flight Center
Greenbelt, MD 20771
(301) 286-7207

For CO, KS, NE, NM, ND, OK, SD, TX:
James Poindexter
AP-4
NASA Lyndon B. Johnson Space Center
Houston, TX 77058
(713) 483-8624

For FL, GA, PR, Virgin Islands:
Ray Corey
PA-EAB

## National Aeronautics and Space Administration - continued

NASA John F. Kennedy Space Center
Kennedy Space Center, FL 32899
(305) 867-4444

For KY, NC, SC, VA, WV:
Roger Hathaway
Stop 154
NASA Langley Research Center
Langley Station
Hampton, VA 23365
(804) 864-3314

For IL, IN, MI, MN, OH, WI:
Lynn Bondurant
Stop 7-4
NASA Lewis Research Center
21000 Brookpark Road
Cleveland, OH 44135
(216) 433-5583

For AL, AR, IA, LA, MO, TN:
Jeff Ehman
CA20
NASA George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812
(205) 453-6531

For MS:
Mark Herring
Mail Code WB
John C. Stennis Space Center
NSTL, MS 39529
(601) 688-1957

## National Museum of Natural History

Office of Education, MRC-158
10th and Constitution Avenue, N.W.
Washington, DC 20560
(202) 786-2790

### Introduction

The Office of Education of the National Museum of Natural History promotes awareness and understanding of the natural world and its peoples, past and present. To this end, the Office of Education provides a variety of activities and experiences that facilitate learning for individuals of diverse ages, backgrounds, abilities and interests. The Office of Education staff develops and carries out programs that are multisensory, intellectually stimulating and entertaining. Goals are to help visitors use their senses to make discoveries, understand new concepts and information, involve themselves actively in learning, relate the material presented to their personal experiences, apply what they have learned, and leave with a sense of wonder and curiosity.

The Office of Education has a staff of fourteen that includes the education director.

### Local Structure

The museum is located Washington, DC. Education programs are conducted throughout the museum: in the exhibit areas, learning center, or naturalist center. The staff members have access to many of the resources within the Smithsonian Institution, and therefore are able to design and conduct programs that are interdisciplinary.

### Areas of Interest/Available Resources

The staff members design the instructional programs, train docents to lead tours and conduct instructional activities with students and adults, develop teacher guides and lesson plans for the local school systems, and provide in-service teacher education programs in the natural sciences and anthropology. The staff members also have access to scientists from a range of disciplines in zoology, geology, and anthropology working throughout the museum and can provide opportunities for visitors to meet and interact with the scientists. Some of the educational activities are guided tours, hands-on science workshops, in-service training for teachers at all levels, and internships for high school and college students. The staff members also provide science fair advisers and judges for the Washington area; special programs built around themes like Earth Day and Black History Month; annual deaccession (give-away) of specimens for

**National Museum of Natural History - continued**

classroom use; and assistance in developing curriculum and school science programs. In July 1990 the museum's first Natural Science Institute for Teachers of Minority Students will be conducted involving teachers of upper elementary through senior high school students.

The Office of Education is committed to the mission of improving scientific literacy for all Americans. In recent years, it has particularly paid attention to the needs of minority students, the handicapped and females.

The Office of Education produces publications that include *Education Bulletin*, the *NMNH Calender*, *Visiting Natural History With School Groups*, and the *Annual Report*.

**Contact Arrangement**

For further information or referral, contact:

Carmel J. Ervin
Secondary Education Specialist
(see above Address)
(202) 786-2790

To request information about local structure, contact:

Mrs. Laura McKie
Acting Assistant Director for Education
(see above address)
(202) 357-2066

**U.S. Department of Energy**
100 Independence Avenue, S.W.
Washington, DC 20585
(202) 586-1634

### Introduction

The U.S. Department of Energy (DOE) provides the framework for a comprehensive and balanced energy plan through the coordination and administration of the energy functions of the federal government. The Department is responsible for the long-term, high-risk research and development of energy technology; the marketing of federal power; energy conservation; the nuclear weapons program; energy regulatory programs; and a central energy data collection and analysis program.

### Local Structure

DOE has laboratories throughout the United States and a number of these are associated with major universities. Many of DOE's educational programs are administered by organizations of associated universities, such as the Oak Ridge Associated Universities (ORAU) and the Associated Western Universities (AWU).

### Areas of Interest/Available Resources

DOE educational activities focus on: (1) providing motivation and opportunities for groups in the population which have been underrepresented (minorities and women) in scientific and technological fields; (2) providing opportunities for teachers and students to increase their scientific and technological skills and knowledge; (3) using resources at the national laboratories for accomplishing the above.

DOE has six national laboratories that are designated presently as laboratory science education centers. These are the Argonne (IL), Oak Ridge (TN), Lawrence Berkeley (CA), Los Alamos (NM), Brookhaven (MA), and the Batelle Pacific Northwest (WA) laboratories. These centers and other DOE facilities provide a range of college and precollege educational programs.

Some of the pre-college programs include the Pre-Freshman Engineering Program (PREP), the DOE High School Science Student Honors Research Program, and the Summer Research Apprenticeship Program (SRAP). These programs provide stimulation and encouragement to outstanding science students by offering them opportunities to visit and conduct research in the national laboratories. Many of these programs target groups underrepresented in science and engineering, such as women and minorities.

## U.S. Department of Energy - continued

Another type of program is the DOE's Adopted School Programs. These programs enrich the quality of science instruction in the involved schools by providing guest speakers for stimulating presentations in various scientific fields, judges for science fairs or other scientific competitions, or the loan of scientific materials and equipment.

Some programs on the college level are: the DOE University-Laboratory Cooperative Program; the Undergraduate Student Summer Research; and the Science and Engineering Research Semester Program (SERS) for juniors and seniors majoring in mathematics, science, computer science or engineering, which provides opportunities for university students and faculty to work at selected DOE research centers.

Especially for secondary teachers of science and mathematics is the DOE Teacher Research Associates (TRAC) program which not only provides opportunities during the summer for teachers to participate in research at DOE research facilities, but also incorporates workshops dealing with the application of new knowledge acquired from this experience to enhance their classroom teaching in their respective fields. This teacher program provides a powerful incentive for teachers to excel in their respective fields of science and mathematics, thereby creating a more scientifically stimulating environment in the secondary school.

### Contact Arrangement

For further information or referral, contact:

John Ortman
U.S. Department of Energy
Office of Energy Research
Washington, DC 20545
(202) 586-1634

### Pre-College Programs

Judith C. Kaye
Los Alamos National Laboratory
P.O. Box 1663 - MSP278
Los Alamos, NM 87545
(505) 667-1919

## U.S. Department of Energy - continued

Frank Vivio
Educational Programs
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, IL 60439
(312) 972-3373

Irene D. Hays
Manager, Pre-College Education
Batelle Pacific Northwest Laboratory
P.O. Box 999
Richland, WA 99352
(509) 375-2584

Karl J. Swyler
Program Manager
Brookhaven National Laboratory
Building 490
Upton, NY 11973
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Linda C. Cain
Pre-College Special Project Administrator
Oak Ridge National Laboratory
P.O. Box 2008
Oak Ridge, TN 37831-6276
(615) 574-5919

Eileen Engel
Pre-College Programs
Lawrence Berkeley Laboratory
1 Cyclotron Road, MS 90-1070
Berkeley, CA 94720
(415) 486-5719

Marjorie Bardeen
Program Manager
Fermi National Accelerator Laboratory
P.O. Box 500, MS 105
Batavia, IL 60510
(312) 849-3092

## U.S. Department of Energy - continued

**University Programs**

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Argonne, IL 60439
(312) 972-3373

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Richland, WA 99352
(509) 357-2730

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Brookhaven National Laboratory
Building 490
Upton, NY 11973
(516) 282-3054

David R. Rupert
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P.O. Box 2008
Oak Ridge, TN 37831-6276
(615) 574-5919

Roland Otto
Director, Center for Science and Engineering Education
Lawrence Berkeley Laboratory
1 Cycloton Road, MS 90-1070
Berkeley, CA 940720
(415) 486-5511

## U.S. Geological Survey

National Center
12201 Sunrise Valley Drive
Reston, VA 22092
(703) 648-4000

### Introduction

The U.S. Geological Survey (USGS) is principally a scientific and technical agency that provides geologic, topographic, and hydrologic information and contributes to the wise management of the nation's natural resources. This information consists of maps, databases, and descriptions and analyses of the water, energy and mineral resources, the land surface, the underlying geologic structure, and the dynamic processes of the earth.

### Local Structure

The USGS is headquartered in Reston, Virginia near Washington, DC. Its scientific programs are administered through the Geologic, Water Resources, and National Mapping Divisions, supported by the Administrative and Information Systems Divisions. The Survey conducts its research and investigations through an extensive organization of regional and field offices located throughout the 50 states, Puerto Rico and the trust territories. Regional offices are located in Reston, VA; Denver, CO; and Menlo Park, CA.

### Areas of Interest/Available Resources

The USGS has a number of nationwide programs of benefit to precollege school systems.

Geologic Information - Teachers' Packets

The Geologic Inquiries Group, in addition to answering inquiries on earth science and related subjects, offers two packets of earth science teaching aids which differ according to grade level and geographic location. These packets include lists of reference materials, map indexes, and a selection of general interest publications The packets are free to teachers who mail their requests on school letterhead and indicate the grade level and subject taught Please write to: Geologic Inquiries Group, U.S. Geological Survey, 907 National Center, Reston, VA 22092.

Hydrologic Information

The Hydrologic Information Unit provides water fact sheets, general information on water resources and a variety of free publications on water quality and quantity which can be obtained from: Hydrologic

## U.S. Geological Survey - continued

Information Unit, U.S. Geological Survey, 419 National Center, Reston, VA 22092.

Earth Science Information Centers

The Earth Science Information Centers (ESIC) offer nationwide information and sales service for USGS products and earth science publications. This network of ESICs provides information about geologic, hydrologic, topographic, and land-use maps, books, and reports; and aerial, satellite, and radar images and related applications software. Each ESIC office takes orders for customized products such as aerial photographs and orthophotoquads, digital cartographic data, and geographic names gazetteers. These offices stock catalogs and indexes describing the topographic and geologic maps they sell. Make inquiries in person, by telephone or by mail to the USGS Earth Science Information Centers in the following states.

Alaska: Anchorage-ESIC, 4320 University Dr., Room 101, Anchorage, AK 99508-4664, (907) 561-5555, or Anchorage-ESIC, U.S. Courthouse, Rm. 113, 222 W. 7th Avenue #53, Anchorage, AK 99513-7546, (907) 271-4307.

California: Los Angeles-ESIC, 7638 Federal Bldg., Rm. 7638, 300 North Los Angeles St., Los Angeles, CA 90012, (213) 894-2850. Menlo Park-ESIC, Bldg. 3, Rm. 3128, Mail Stop 533, 345 Middlefield Rd., Menlo Park, CA 94025, (415) 329-4309. San Francisco-ESIC, 504 Custom House, 555 Battery St., San Francisco, CA 94111, (415) 705-1010.

Colorado: Denver-ESIC, 169 Federal Bldg., 1961 Stout St., Denver, CO 80294, (303) 844-4169.

Mississippi: Stennis Space Center-ESIC, Bldg. 3101, Stennis Space Center, MS 39529, (601) 688-3544.

Missouri: Rolla-ESIC, 1400 Independence Rd., MS 231, Rolla, MO 65401, (314) 341-0851

Utah: Salt Lake City-ESIC, 8105 Federal Bldg., 125 South State Street, Salt Lake City, UT 84138, (801) 524-5652.

Virginia: Reston-ESIC, 507 National Center, Reston, VA 22092, (703) 648-6045.

Washington: Spokane-ESIC, 678 U.S. Courthouse, West 920 Riverside Avenue, Spokane, WA 99201, (509) 353-2524.

## U.S. Geological Survey - continued

District of Columbia: Washington, DC-ESIC, Rm. 2650, Dept. of Interior Bldg., 18th & C Streets, N.W., Washington, DC 20240, (202) 343-8073.

Library Services and Film Collection

Contact your school or public library to initiate an interlibrary loan with the USGS. Information on borrowing from the earth science film library can be gained by contacting: Visual Information Services, U.S. Geological Survey, 790 National Center, Reston, VA 22092, (703) 648-4379.

Internships and Volunteer Program

Information on internships for students and teachers to increase their depth of knowledge and experience in the field of earth sciences is available by contacting: Volunteer Program Coordinator, U.S. Geological Survey, 215 National Center, Reston, VA 22092, (703) 648-6631. (For a recorded message on complete volunteer program information, call (703) 648-7440 in Reston, VA and (415) 329-5003 in San Francisco.)

Programs at State and Regional Offices

The three main regional centers and district offices in each state, offer a variety of programs in their immediate areas that may include: teacher in-service programs, seminars, workshops, field trips, classroom presentations, rock and fossil collections for reference or loan, tours and special programs for teachers and students, and career and science fair participation. Please refer to educational contacts to inquire about these programs.

**Contact Arrangement**

For further information or referral, contact:

Educational Contacts

Gail Wendt
Public Affairs Office
U.S. Geological Survey
119 National Center
Reston, VA 22092
(703) 648-4462

## U.S. Geological Survey - continued

Richard Williams
Personnel and Volunteerism
215 National Center
Reston, VA 22092
(703) 648-4462

Geologic Programs and Activities

Eastern Region (AL, CT, DE, FL, GA, IL, IN, KY, ME, MD, MA, MI, MN, MS, NH, NJ, NY, NC, OH, PA, RI, SC, TN, VT, VA, WV, WI, Puerto Rico)

Laure Wallace
U.S. Geological Survey
953 National Center
Reston, VA 22092
(703) 648-6515

Central Region (AR, CO, IA, KS, MO, MT, NE, NM, ND, OK, SD, TX, UT, WY)

Anny Coury
U.S. Geological Survey
Box 25046, DFC, MS 911
Denver, CO, 80225
(303) 236-5440

Western Region (AK, AZ, CA, HI, ID, NV, OR, WA)

Leslie Gordon
U.S. Geological Survey
MS 919, Menlo Park
CA 94025
(415) 329-4006

Computer and Technology Information

Denise Wiltshire
U.S Geological Survey
802 National Center
Reston, VA 22092
(703 648-7114

## U.S. Geological Survey - continued

National Mapping Programs

Richard Witmer
U.S. Geological Survey
514 National Center
Reston, VA 22092
(703) 648-4610

Water Resource Programs

Norman E. Schmidt
U.S. Geological Survey
406 National Center
Reston, VA 22092
(703) 648-5244

Visitor Center
U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 22092
(703) 64-VISIT

## Arizona Alliance for Mathematics, Science, and Technology Education

Grand Canyon College
3300 West Camelback Road
Phoenix, AZ 85017-1097
(602) 589-2524

### Introduction

The Arizona Alliance for Mathematics, Science, and Technology Education (AZA) is a tax-exempt, nonprofit corporation. Its membership includes educational institutions, businesses, industries, professional organizations, governmental agencies, and individuals. AZA is dedicated to increasing literacy in mathematics, science, and technology in the state.

### Organizational Structure

AZA is governed by a board of directors. Members represent a diverse population drawn from institutions of higher education, the state department of education, public school systems, the Arizona Council of Engineering and Scientific Associations, business and industry.

### Partnership Programs and Projects

AZA promotes scientific literacy through a variety of programs and projects. Some are presented here.

The Inner-City Arizona Alliance-School District Partnership Programs are continuing for the third year. Eighteen elementary schools representing eight school districts receive sixteen two-hour sessions in science process activities requested by their teachers.

The Rural School Outreach Program brings scientists and engineers to remote school districts to make stimulating presentations on exciting topics related to their fields. These presentations include visual aids and/or hands-on activities to be carried out by the students, and provide opportunities for students to understand the relevance of science in the real world.

Other AZA programs include science updates, technical tours, biotechnology tours, "field trips to you," teacher workshops, aviation education, Science Olympiad, grant writing workshops, Partners for Success, science library programs, Shadow Program, and hosting receptions and special programs honoring mathematics and science teachers. AZA publishes a periodic newsletter to keep the membership informed of alliance-sponsored programs and events.

## Arizona Alliance for Mathematics, Science, and Technology Education - continued

### Contact Arrangement

For further information or referral, contact:

Charles Y. Hoyt
President, Arizona Alliance
(See above address)
(602) 589-2524

## Coalition for Excellence in Science and Technology

1415 Beech Tree Street
Grand Haven, MI 49417
(616) 847-4689 or 4612

### Introduction

The Coalition for Excellence in Science and Technology (CEST) is a consortium of leaders from the local school system, business and industry, and an institution of higher education in the Grand Haven area. The goal of this alliance is to promote community involvement in the educational process at all levels (K-12) through the cultivation of partnerships between various community members and the schools for the benefit of the entire community.

### Organizational Structure

CEST is directed by an advisory committee composed of four business executives, one assistant superintendent, two principals and school coordinators and three classroom teachers. The Grand Haven public schools draw on many local businesses for partnerships with students and teachers.

### Partnership Programs and Projects

CEST has been instrumental in stimulating many partnerships between the school and the business communities through their monthly professional luncheon meetings, which are sponsored by the local Rotary and Kiwanis clubs. Two teachers or counselors are invited to each meeting where they find an opportunity to make their needs known and learn more about the resources in the community. CEST has established a science, mathematics, and technology center in one of the local schools, which serves as its base of operations. CEST publishes a directory of resources for teachers in the community, *Classroom Resources for Science, Math, Technology.*

### Contact Arrangement

For further information or referral, contact:

Nancy Larsen
Math/Science Consultant, Grand Haven Public Schools
(see above address)
(616) 846-0303

Jack Smant
Executive Director, Assoc. of Commerce/Industry
P.O. Box 509
Grand Haven, MI 49417
(616) 842-3860

## Colorado Alliance for Science

University of Colorado at Boulder
Campus Box 249
Boulder, CO 80309-0249
(303) 492-6392

### Introduction

The Colorado Alliance for Science (CAS) is a consortium composed of 50 business and industry members, 14 institutions of higher education, 38 governmental agencies, and 100 local school districts. CAS is committed to the improvement of instruction in science, mathematics, and technology in Colorado's school from the kindergarten level to grade 12.

### Organizational Structure

Members from six councils, representing the groups which compose the consortium, form the steering committee which sets the policies of CAS. Twelve regional committees carry out the programs on the local level.

### Partnership Programs and Projects

CAS programs benefit the educational system by providing support to teachers in the state. One program, the Summer Fellowship Program, provides teachers with summer employment with mentors in industry. The teachers involved in this program are given time on the job to develop a curriculum project related to their summer work, which they can use in their classes during the school year. The MAST Hotline is another program for teachers. Mathematics and science teachers from all over the state call the hotline, toll-free, for answers to questions, teaching ideas, and other information of interest to teachers. Other CAS programs directly benefit the students. The Retired Educator, Scientist, and Engineer Task Team (RESETT) program places retired volunteers in schools where they enrich science and mathematics instruction.

CAS periodically publishes a newspaper, *Science Interface*, to keep its members informed of its activities.

### Contact Arrangement

For further information or referral, contact:

Manert Kennedy
Executive Director
(see above address)
(303) 492-6392

## Colorado Education Association Business Alliance Project

3131 South Vaughn Way, Suite 500
Aurora, CO 80014
(303) 695-4300
1-800-332-5939

### Introduction

The Colorado Education Association (CEA) is a professional organization with more than 27,000 members who work in every school district in the state. Over 90 percent of its members are K-12 public school teachers, but its membership also includes higher education faculty, retired teachers, education support employees, and students studying to be teachers. CEA's mission is twofold. It is an advocate for the personal and professional interests of educational employees and it works to promote quality education in Colorado's public schools. CEA has a business alliance project and encourages business leaders and educators to work together to determine how best to prepare students for the 21st century. This project brings the business and education communities together to focus their collective energies and talents on meeting the needs of students.

### Organizational Structure

The Colorado Education Association Business Alliance Project creates a partnership between major businesses and the CEA. It involves several school districts. In its first year 15 school districts were involved. Plans are underway to eventually to expand the project statewide.

### Partnership Programs and Projects

CEA's Business Alliance Project has a number of facets, all directed toward greater cooperation between educators and members of the business community. The project includes monthly round-tables with business leaders and classroom teachers to explore critical education issues; a quarterly newsletter on education issues initiated in early 1990 and mailed to business leaders across the state; CEA's active participation in the Public Education Coalition and Colorado Alliance of Business; CEA local affiliate activities in communities around the state, including teacher cadres that work with local business people and teachers participating in local business organizations; videos promoting business-education partnerships used with both business organizations and CEA members.

## Colorado Education Association - continued

### Contact Arrangement

For further information or referral, contact:

Harold H. Hagan
Director, Business Alliance Project
(see above address)
(303) 695-4300
1-800-332-5939

## The Dayton-Montgomery County Public Education Fund Mathematics Collaborative

2100 Kettering Tower
Dayton, OH 45423
(513) 222-2934

### Introduction

The Dayton-Montgomery County Public Education Fund was established in 1985 to keep public education high on the civic agenda and to improve education in Dayton and Montgomery County Schools. One of the Fund's major goals is to build, expand, and strengthen coalitions to support public education. A project sponsored by the Fund is the Dayton-Montgomery County Public Education Fund Mathematics Collaborative (D[MC]$^2$). The goals of the D[MC]$^2$ are to publicize the problem in mathematics education and garner support from school boards, administrators, parents, and teachers for curricular change; challenge and support mathematics teachers and encourage interaction among them; provide professional development programs for teachers of mathematics and access to resource materials and programs; reward teachers for innovations in mathematical instruction; and encourage working partnerships between schools and business.

### Organizational Structure

D[MC]$^2$ is governed by an advisory committee which is composed of representatives from the various partners in the Collaborative. This broad-based committee includes teachers and administrators from the public schools, representatives from business and industry, and mathematics educators from institutions of higher education.

### Partnership Programs and Projects

The major thrust of D[MC]$^2$ activities is professional staff development for teachers of mathematics. These activities include sequential workshops, seminars and conferences; grants to teams of teachers for development and implementation of innovations in mathematics instruction; internships in business and industry; mentors in mathematics for the teachers; and the dissemination of resources giving examples of "real-world" mathematical applications that can be used in instruction.

### Contact Arrangement

For further information or referral, contact:

Sue F. Rinehart
(see above address)
(513) 222-2934

## East Central Illinois Partnership for Excellence in Education, Inc.

200 South Frederick Street
Rantoul, IL 60966
(217) 893-0024

### Introduction

The East Central Illinois Partnership for Excellence in Education, Inc. (ECIPEE) is a not-for-profit consortium. It draws its membership from business, industry, labor, education, government, civic and religious groups, and individuals. The major goals of ECIPEE are to bring together leaders from these groups in order to promote excellence in education, serve as a clearinghouse and broker for information and technical assistance regarding partnerships in education, and provide a variety of experiences for students (K-12) to enrich, enhance and extend their educational opportunities and help them succeed in the work world.

### Organizational Structure

ECIPEE is governed by a board of directors, which includes representatives of most of the groups that make up the membership. The members of the board of directors also serve as chairpersons for five committees which handle the work of the alliance. There is a committee devoted to the each of the tasks described by the following headings: membership, program, public relations, policy and finance.

### Partnership Programs and Projects

The ECIPEE has developed a number of programs to promote the goals of the organization. Some of these are described below.

The Saturday Challenge was developed to acquaint secondary students with careers in interactions between registered students and professionals in science, mathematics, and technology fields.

The portable science/math exhibits were developed as a preliminary step of the establishment of a hands-on science and mathematics museum. One week training sessions instruct teachers as to how to use the exhibits, which are then circulated among the participating schools to promote hands-on science education.

ECIPEE has also compiled a database of community resources of interest to teachers. A resource directory will be produced from this database and distributed to schools in the community. The alliance

## East Central Illinois Partnership for Excellence in Education, Inc. - continued

publishes a periodic newsletter, *ECIPEE News*, to communicate its activities to members and the community.

### Contact Arrangement

For further information or referral, contact:

Linda Bauer
Vice-President Corporate Communications & Development
News Gazette
P.O. Box 677
Champaign, IL 61824
(217) 351-5315

## Fellows for the Advancement of Mathematics and Science

M602, Long Island University
University Plaza
Brooklyn, NY 11201
(718) 403-1056

### Introduction

The Institute for the Advancement of Mathematics and Science created the Fellows for the Advancement of Mathematics Education (FAME) program to enhance mathematics and science education at the elementary and middle school levels. FAME is funded by NSF and is supported in this effort by professional associations, museums and science centers, governmental agencies, local school districts, and institutions of higher education. The program has been promoted in the New York City public schools and several surrounding counties, and also has been introduced in schools in Denton and Dallas, TX and in Miami, FL.

### Organizational Structure

The Institute is governed by a board of advisors. Standing committees deal with the various aspects of the FAME program such as participant selection, program development, research and evaluation, dissemination, etc. The Institute has four full-time, salaried staff.

### Partnership Programs and Projects

FAME has several ongoing programs. The School Mathematics Resource Teams are organized in FAME schools under the leadership of resident FAME Fellows with the goal of upgrading mathematics instruction and linking it to science instruction within the school. The Student Volunteer Network provides opportunities for high school students to work in elementary school classrooms as teaching assistants for master mathematics teachers. An effort is made to recruit females and other underrepresented groups for these programs. FAME's Family Math program offers workshops for both inner city and suburban families in the New York City area school districts. This program increases community awareness of the important role of mathematics in daily life.

### Contact Arrangement

For further information or referral, contact:

Madeleine J. Long
Director
(See above address)
(718) 403-1056

## Florida Alliance for Technological Education, Inc.

P.O. Box 7027
Hollywood, FL 33081-1027
(305) 989-4533

### Introduction

The Florida Alliance for Technological Education, Inc. (FATE) is a consortium of 110 business and industry partnerships, 89 professional associations, 50 governmental agencies (local, state, and national), and 24 institutions of higher education. Over 500 public and private schools are served by the Alliance. FATE is committed to enhancing and promoting all areas of education in a K-100 program, going beyond the regular structure of education.

### Organizational Structure

The Florida Alliance is governed by a board of directors under the leadership of the executive director. Members of the board include representatives of alliance member organizations as well as representatives from each geographical area.

### Partnership Programs and Projects

The most active projects are: (1) the Agri-Science Project which provides instruction and ideas for activities for school teachers to use in their classroom. All fields of botany, earth science, computer science, mathematics, physical science, and related fields are brought into use. (2) Alliance members help set up and judge local school, county, and state science fairs, providing special awards for deserving students. (3) The Alliance assists in producing and maintaining a library of video and slide presentations to be used by members and educators to help students. In addition to general education, it includes science fair information, safety, substance abuse, and community participation projects.

### Contact Arrangement

For further information or referral, contact:

Joel Katz
Executive Director
(See above address)
(305) 989-4533

## Friends of Fermilab

Fermilab MS 777, Box 500
Batavia, IL 60510
(708) 840-3092

### Introduction

The Friends of Fermilab (FFLA) was formed to enhance pre-college science and mathematics education, encourage young people to pursue careers in science and engineering, and increase public awareness and understanding of science. FFLA is supported by a number of agencies including the Department of Energy, National Science Foundation, Illinois State Board of Education, nine local foundations and membership dues.

### Organizational Structure

FFLA is governed by the board of directors which acts through the executive committee and program committee. The program committee produces programs drawing from financial resources of the association and volunteers from the Fermi National Accelerator Laboratory (Fermilab). Fermilab is a single-purpose national laboratory operated by the Universities Research Association for the United States Department of Energy.

### Partnership Programs and Projects

FFLA has developed numerous programs to fulfil its goals. One of the oldest and most successful is the Summer Institute for Science and Mathematics Teachers. These intensive, four-week sessions provide opportunities for high school science and mathematics teachers to update their knowledge in scientific and technological fields and learn to incorporate this new knowledge into their curricula. Participants receive college credit and a stipend. Follow-up sessions are provided during the school year.

The Chemistry West and Physics West network organizations are partially supported by FFLA. These "offspring" alliances of the FFLA are informal groups composed of teachers sharing with teachers, with the goal of increasing professionalism among teachers of physics and chemistry. They generally have monthly meetings during the school year and publish monthly newsletters.

Among the 30 programs FFLA has produced are several science "magic" shows and collections of interactive science exhibits, which

## Friends of Fermilab - continued

are available to area schools. They are building an education and visitors center, Fermi Center, where they will hold workshops for teachers and students such as the Saturday Morning Physics at Fermilab for high school students.

FFLA publishes two quarterly newsletters, *Friends of Fermilab News Notes* and *science lines*.

### Contact Arrangement

For further information or referral, contact:

Marjorie G. Bardeen
Vice President, Programs
(see above address)
(708) 840-2031

Lee Marek
Director, Chemistry West
911 E. Porter
Naperville, IL 60540
(708) 420-6513

James Ruebush
Physics West
St. Charles High School
1020 Dunham Road
St. Charles, IL 60274
(708) 377-4794

## Hands-On-Science Outreach, Inc.

4910 Macon Road
Rockville, MD 20842
(301) 881-1142

### Introduction

Hands-On-Science Outreach (HOSO) is a non-profit corporation dedicated to bringing informal science education to children, parents and communities. Originally developed in Montgomery County, MD, HOSO has been partially funded by NSF for trial in other parts of the United States.

### Organizational Structure

HOSO is governed by a board of directors which includes members from institutions of higher education, business, industry, public schools, and other professions. It has a small administrative staff and a team of teachers to implement the program.

### Partnership Programs and Projects

The HOSO program is a recreational science program for prekindergarten (age 4) through 6th grade. The program is offered in the schools after school hours to small groups of children. The children are engaged in activities in a playful, relaxed, but structured environment. The activities are graded so that they are age-appropriate and encompass a wide range of scientific topics. The program is designed to promote problem solving abilities and increase awareness of the application of science in everyday life. The program can also provide opportunities for teacher training and increase community science awareness.

### Contact Arrangement

For further information or referral, contact:

Phyllis Katz
Director
(see above address)
(301) 881-1142

**Indiana Corporation for Science and Technology**
One North Capitol Avenue, Suite 925
Indianapolis, IN 46204-2242
(317) 635-3058

## Introduction

The Indiana Corporation for Science and Technology (CST) was established by the Indiana state government as a part of an overall economic development strategy. CST's role focuses on the support of high tech industrial development and university research. A state strategic technology plan created in 1989 indicates policy directions for future efforts. Improved science and mathematics education was one of four key recommendations involving work force training.

## Organizational Structure

CST is a partnership between industry, academia, and government. Fifteen volunteer committees provide advice and assistance to CST in thirteen technical and two educational areas. These committees assist CST by reviewing proposals, developing programs, and providing communication between various institutional members. The education committee's membership includes representatives from two businesses, eleven institutions of higher education, fourteen local school districts including individual teachers, the state Department of Education, and a science museum.

## Partnership Programs and Projects

Although most of CST's resources are used to establish university research and development centers and support small and medium-sized companies, a portion is devoted to pre-college education. The education committee and the vocational training committee promote these programs. One of the programs co-sponsored by the education committee and the Indiana Academy of Science was a symposium highlighting new approaches to science education, "Science Education at the Crossroads." In another program, the "Buddy System," personal computers were provided to over 300 fourth and fifth grade students for home use. The CST's vocational committee developed a teacher intern program, where about 80 teachers spent two to four weeks in the summer working in various businesses and industries. This program provided the teachers with insight into current applications of science and technology in the work place, and enabled these teachers to translate their experience into their curricula. The CST sponsored National Science and Technology Week and provided volunteer speakers for math and science classes of teachers promoting such observances in their local schools.

## Indiana Corporation for Science and Technology - continued

### Contact Arrangement

For further information or referral, contact:

William B. Glennon
Committee Coordinator
(see above address)
(317) 635-3058

## Industry Initiatives for Science and Math Education

Lawrence Hall of Science
University of California, Berkeley
Berkeley, CA 94720
(415) 643-6594

### Introduction

Industry Initiatives for Science and Math Education (IISME) is a nonprofit tax exempt organization. It is a partnership between fifty San Francisco Bay Area industries and the University of California, Berkeley's Lawrence Hall of Science (LHS). IISME is dedicated to improving the quality of high school science and mathematics instruction and motivating students to pursue careers in science and mathematics.

### Organizational Structure

IISME-sponsoring industries provide ninety percent of the costs of the program. Leadership is provided by the senior advisory council, which is composed of eight senior level executives of the sponsoring industries and the LHS, and local school districts. Policy and procedures are determined by the board of directors, consisting of twenty members of the above groups. IISME presently involves fifty businesses and industries, one science center, thirty-eight public schools, and twenty-two private schools.

### Partnership Programs and Projects

The main thrust of IISME has been to increase the professionalism of high school science and mathematics teachers. This is achieved by the IISME summer fellowship program for science and mathematic teachers. Teachers selected as fellows work with mentors in business and industry for the summer, learning science and mathematics applications in a real world setting. They receive a stipend for their work and staff members of the LHS assist them in transferring new knowledge, gained on the job, to their classroom teaching. The program has increased teacher self-confidence and enthusiasm. It has provided teachers with updated knowledge and skills and new perspectives of teaching. In turn, students have received more relevant and effective instruction. Many fellow-mentor relationships continue throughout the school year. For example, the mentors make visits as guest speakers to the schools and the teachers borrow equipment from the sponsoring industries for demonstrations in the classroom.

## Industry Initiatives for Science and Math Education - continued

### Contact Arrangement

For further information or referral, contact:
Marie Earl
Executive Director
Deskin Research Group
2270 Agnew Road
Santa Clara, CA 95054
(408) 496-5340

## Los Angeles Educational Partnership

315 West Ninth Street, Suite 1110
Los Angeles, CA 90015
(213) 622-5237

### Introduction

The Los Angeles Educational Partnership (LAEP) was established in 1984 to direct private sector resources to improve the quality of education and build the community's confidence in Los Angeles-area public schools. LAEP is a non-profit, independent public education fund acting as an intermediary between the public and its schools. LAEP's teacher-based programs stress professional development, networking, recognition, and decision making. Other programs involve such areas as dropout prevention, and better communication between schools and their local communities.

### Organizational Structure

LAEP is governed by a board of directors composed of 33 members representing business, labor, education, government, and the ethnic diversity which characterizes the Los Angeles area. Because LAEP is an independent discretionary fund, no school district representatives serve on the board. Seven advisory councils assist in the design LAEP. A professional staff assists the board and the advisory committees in the implementation of the programs.

### Partnership Programs and Projects

Descriptions of some examples of successful LAEP programs follow. +Plus+ (Professional Links with Urban Schools) encourages professional development of teachers and modernizes the curriculum in high school mathematics through instructional workshops. Target Science links science-rich resources from the community with the schools to effect teacher-initiated improvement in science education. IISME (Industry Initiatives for Science and Mathematics Education) employs science and mathematics teachers in the summer in industrial or university laboratory positions. These fellowships enable the teachers to bring current science and mathematical applications to their classroom instruction. TELEventure is a telecommunications network which allows teachers in the +Plus+ and Target Science programs to communicate with each other.

### Contact Arrangement

For further information or referral, contact:

Patricia Dung
Target Science Director
(see above address)
(213) 622-5237

**Mathematics and Science Center**
2401 Hartman Street
Richmond, VA 23223
(804) 788-4454

## Introduction

The Mathematics and Science Center is a joint venture of five school districts, with formal ties to one institution of higher education and one foundation and association with one professional organization and approximately twenty businesses and industries. Until 1989, it was supported entirely with funds from the five school districts. The mission of this alliance is to provide leadership and support to teachers in mathematics, science and technology in the five member school districts.

## Organizational Structure

The Center is governed by a board of directors, composed of the superintendent and one school board member from each of the five school districts, and two at-large representatives from business and industry. The facility is located in Henrico County just outside of Richmond. The Center has been cited as an exemplary model of regional cooperation.

## Partnership Programs and Projects

The Center provides a variety of traveling and in-house programs throughout the year. Some of the traveling programs are the Mathmobile, instructional kits and enrichment lessons. The Mathmobile travels to middle schools where math concepts are demonstrated in entertaining ways. The instructional kits provide classroom teachers with activities, equipment and materials for hands-on experiences. Enrichment lessons for students in grades K-12 are conducted by Center staff members at local schools and at the Center itself during school hours.

Other in-house programs for students are the saturday programs for students and a summer program for gifted students (grades 6-12).

The Center offers a variety of programs to classroom teachers ranging from workshops to full courses for certificate renewal. Courses are taught in cooperation with the Virginia Commonwealth University and count for college credit. The Center's Teacher Adventure Series

## Mathematics and Science Center - continued

provides opportunities for special weekend experiences for teachers such as caving and behind-the-scenes programs at museums, zoos, laboratories and industries. The Center also offers unique summer travel opportunities to teachers.

### Contact Arrangements

For further information or referral, contact:

Elizabeth Waring
Director
(See above address)
(804)788-4454

## The Missouri Alliance for Science, Mathematics, and Technology Education

c/o Southeast Missouri State University
One University Plaza
Cape Girardeau, MO 63701

### Introduction

The Missouri Alliance for Science, Mathematics, and Technology Education was established by science and mathematics educators to involve all parts of society in improving education in science and mathematics and scientific, mathematical, and technological competency to meet the challenges of the future. The Missouri Alliance has several specific goals: to educate the public on the need for citizens competent in science, mathematics and technology, and enlist public support for this goal; to identify needs in schools which can be effectively met through statewide cooperative programs; to enhance teacher professional activity and participation in educational decision-making; and provide means for business and industry to become more effectively involved in education.

### Organizational Structure

The Missouri Alliance is governed by a board of directors. The partners in the Missouri Alliance include five members from business and industry, three professional associations, one institution of higher education, and two governmental agencies.

### Partnership Programs and Projects

The Missouri Alliance sponsored a strategic planning conference in the fall of 1989 which produced a report containing 40 specific action recommendations for attaining competency in science, mathematics, and technology on the part of all Missouri students. This report is the action agenda of the Alliance. The Science/Mathematics Association of Retired Technologists (SMART) is a task force of the Missouri Alliance planning to supply a wide variety of consumer-defined services to teachers, students, schools, businesses, and industries. The Missouri Mathematics Task Force is developing a state coalition to establish the new mathematics standards in Missouri.

The Missouri Alliance publishes a periodic newsletter to keep its membership informed of its activities.

## The Missouri Alliance for Science, Mathematics, and Technology Education - continued

### Contact Arrangement

For further information or referral, contact:

Edward C. Stoever, Jr.
Executive Director
(see above address)
(314) 651-2592

## New York Science, Technology, and Society Education Project

Room 232-M, 89 Washington Avenue
Albany, NY 12234
(518) 486-1726/473-1759

### Introduction

The New York Science, Technology, and Society Education Project (NYSTEP) is a cooperative effort of the New York Power Pool (all the utility companies in the state), the New York State Education Department, and the Atmospheric Sciences Research Center at SUNY Albany. NYSTEP is a curriculum development and dissemination project that enhances science instruction in elementary and middle level classrooms across New York state through free written materials and hands-on in-service and preservice workshops for teachers. Curriculum development funding is provided by a grant from the National Science Foundation.

### Organizational Structure

NYSTEP is directed by Carolyn S. Graham, an associate in the Bureau of Science Education of the New York State Education Department in Albany. Additional oversight is provided by a statewide NYSTEP advisory board composed of teachers, administrators, university faculty, private industry representatives, and liaisons from the respective partners.

### Partnership Programs and Projects

NYSTEP produces easy-to-use classroom materials that educate middle level students to think globally and act locally on perennial issues at the intersection of science, technology, and society. Science curriculum materials, linked to the state middle level science syllabus, are produced by writing teams drawn from the ranks of classroom teachers, students, corporate representatives, scientists, and engineers. Materials are field-tested statewide and subjected to external review by a host of state and national organizations and associations before a final version appears. The project also provides free elementary and middle level energy activity booklets to New York state teachers.

Workshops are conducted on a continual basis during the school year by a statewide network of NYSTEP resource agents, project associates, and educational representatives from the members of the New York Power Pool. All NYSTEP materials are available for purchase by persons outside New York state.

## New York Science, Technology, and Society Education Project - continued

### Contact Arrangement

Dr. William Peruzzi
Project Coordinator
(See above address)

## PATHS/PRISM

1930 Chestnut Street, Suite 1900
Philadelphia, PA 19103
(215) 655-1400

### Introduction

The Philadelphia Renaissance in Science and Mathematics (PRISM) is a collaborative aimed at increasing the effectiveness of instruction and minority enrollment in precollege science and mathematics. PRISM activities target teachers as the highest priority. Geographic coverage includes Philadelphia and the surrounding metropolitan area. Participating organizations include business/industry, labor unions, universities, scientific and engineering societies, education associations, parent-teacher groups, government agencies, school districts, museums, and cultural organizations.

### Organizational Structure

In 1987, PATHS (Philadelphia Alliance for Teaching Humanities in the Schools) and PRISM merged to form the country's largest and most comprehensive partnership for staff and curriculum development. PATHS/PRISM is governed by a policy-oriented board which meets four times per year. Board members include representatives from business/industry, labor unions, science, engineering, and education.

### Partnership Programs and Projects

PATHS/PRISM programs and projects include conferences, newsletters, in-service teacher workshops, a speakers bureau, small grants for teachers, equipment, awards, technical assistance, scholarships or fellowships, internships, tours, curriculum development and support, program development, content seminars, and a visiting scientist program. More broadly, PRISM is involved in professional development and maintains a clearinghouse of resources and a consulting service. It also maintains databases and an electronic bulletin board. Other successful activities include: Philadelphia Regional Introduction for Minority to Engineering (PRIME), Project 2061, the Comprehensive Regional Center for Minorities, and PRISM institutes for precollege science and mathematics teachers. A packet of sample publications called *PRISM: A Program of the Committee to Support Philadelphia Public Schools* is available upon request. PATHS/PRISM is currently working on an interdisciplinary school site program for clusters of schools (a middle school and feeder elementary schools).

## PATHS/PRISM - continued

### Contact Arrangement

For further information or referral, contact:

Dr. Stephen Cox
Project Director
PATHS/PRISM
United Way Building
7 Benjamin Franklin Pkwy., Suite 700
Philadelphia, PA 19103-1294
(215) 665-1400

## Partnerships for Progress - The Bridge Program

University of Missouri - St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121-4499

### Introduction

The Bridge Program is one of several outreach programs of the University of Missouri - St. Louis Partnership for Progress initiatives. The goal of this initiative is to prepare students to fully participate in the technological world of the 21st century. Other programs sponsored by this group are: Access to Success, for grades six through eight; and the Engelmann Mathematics and Science Institute, for outstanding high school students.

### Organizational Structure

The Partnerships for Progress is assisted by several advisory councils which are composed of representatives from business and industry, higher education, local school districts, and other community leaders. The Bridge Program is staffed by university and school personnel from school districts in the St. Louis area.

### Partnership Programs and Projects

The focus of the majority of the Bridge Programs is on high school students: to encourage them to stay in school, attend college, and pursue careers in mathematics, science, or technology. Some programs such as Summer Link and Summer Academy provide opportunities for these students to learn more about mathematics and science in workshops or college-credit courses. In some cases, participants in these programs are given summer employment on campus or in local corporations. The Saturday Academy and Tutoring Program offer students help and enrichment in their studies during the school year.

The Bridge Program publishes a newsletter, *Bridge*, each semester to keep members and the community informed of its activities.

### Contact Arrangement

For further information or referral, contact:

Sandy MacLean
Acting Director
(See above address)
(314) 553-5211

## Partners for Terrific Science

Miami University - Middletown
Middletown, OH 45042
(513) 424-4444

### Introduction

The Partners for Terrific Science is a program involving twenty-two businesses and industries, ten institutions of higher education, two professional organizations, two government agencies and seventy-seven school districts. The objectives of the program are to increase teachers' awareness of applications in science and technology in chemical industries and allied products industries and to develop projects which teachers could use to involve their students in hands-on applied science.

### Organizational Structure

The partnership is governed by project directors with the assistance of an advisory board, which is composed of teachers, school administrators, academic and industrial scientists, and corporate management personnel. The teacher participants are drawn from 77 school districts in four states (Ohio, Indiana, Kentucky, and Michigan).

### Partnership Programs and Projects

The program for Partners for Terrific Science is carried out during the school year. Participating teachers attend three fall workshops and one spring workshop. Participants are placed in small groups according to the grade levels that they teach. They focus on one industry, visiting the industrial site and carrying out laboratory activities-related to scientific concepts and applications observed. Teacher participation is required to plan activities for integrating this newly acquired knowledge into their curriculum. At the spring session, teachers share the materials they have developed each other. In this way, they generate a pool of grade-specific, innovative science activities related to the applications of chemistry in industry.

### Contact Arrangement

For further information or referral, contact:

Mickey Sarquis
Director and Senior Chemistry Instructor
(See above address)
(513) 424-4444

## Pittsburgh Regional Center for Science Teachers

University of Pittsburgh RCRC
1N10 Forbes Quad
Pittsburgh, PA 15260
(412) 648-7560

### Introduction

The Pittsburgh Regional Center for Science Teachers (PRCST) incorporated as a non-profit alliance in 1983 as a result of a regional conference addressing the status of science education. The goals of PRCST are: to attract a larger percentage of students to careers in science and technology; provide science and mathematics teachers of grades K-12 with access to local and national resources to enhance their teaching and bring today's world into the classroom; assist administrators and school boards in upgrading their science and mathematics curricula; and raise the level of understanding of the need for better science and mathematics education in the community and among the parents of school children.

PRCST geographically serves the western Pennsylvania region surrounding and including Pittsburgh. Participating organizations include business and industry, universities, scientific associations, museums, parent-teacher associations, public television, and other science-related organizations. The service area covers eleven counties comprised of 138 school districts, impacting approximately 300,000 students.

### Structural Organization

PRCST is governed by a 12 to 15 member board of directors representing precollege education, business and industry, higher education, museums and school boards, which meets to four times per year. The board is charged with development of program and budget structure. There is a full-time director and a part-time project director. Work-study students are provided by Carnegie Mellon University. Volunteers come from the Carnegie, organizations from the Women's Auxiliary to the Institute for Mining Engineers, and interested educators.

### Partnership Programs and Projects

Programs and projects of PRCST include development and maintenance of a unique database of science education resources (many not listed anywhere else) designed to be easily accessed by teachers. A newsletter, *LASER*, is mailed directly to teachers, administrators, and

**Pittsburgh Regional Center for Science Teachers - continued**

other interested educators. A series of workshops and seminars is offered annually to provide teachers with development opportunities, and students with enrichment activities. Resources are spotlighted at these conferences. In-service programs are arranged by request of school districts and/or intermediate units serving coalitions of school districts. The development of a broad alliance for science will target leadership/groups with special interest focus as well as encouraging interactive participation across disciplines and organizational lines.

PRCST was one of five sites to pilot the National Volunteer Project in Science and Mathematics sponsored by the Triangle Coalition. A pilot study, "Minerals from the Ground Up," from the American Mining Institute was placed in area classrooms by PRCST in cooperation with the Society of Mining Engineers.

The major factor contributing to the success of this alliance is the identification of services based on documented teacher needs. Assessment of teacher needs is an ongoing activity of this alliance.

**Contact Arrangement**

For further information or referral, contact:

Jane Konrad
Executive Director
(See above address)
(412) 622-3279

## San Francisco Science Collaborative
## San Francisco Education Fund

One Ecker Street
San Francisco, CA 94105
(415) 512-1465

### Introduction

The San Francisco Science Collaborative was founded in 1985 to assist the San Francisco Unified School District (SFUSD) in the revitalization of teaching and learning science in grades K-12 by promoting professional development, leadership, and collegiality among teachers. Initially the Science Collaborative focused solely on the elementary grades; however, with the implementation of phase two of the program in 1989, the focus has expanded to include all pre-college grades. The Science Collaborative primarily serves teachers, but also seeks and welcomes participation from administrators.

### Organizational Structure

The Science Collaborative has many partners including twelve local science organizations and science museums, four corporations, two universities, the SFUSD, and the San Francisco Education Fund. The Carnegie Corporation provides major funding for the Science Collaborative through a grant to the San Francisco Education Fund, a tax-exempt, nonprofit organization; additional funding is raised by the Education Fund from local and national sources. The SFUSD provides in-kind support for the Collaborative by providing supplies, school sites for the programs, etc. The other Collaborative partners contribute staff time and materials for the program activities.

### Partnership Programs and Projects

The Science Collaborative sponsors professional development activities such as workshops and conferences which are often designed and led by local teachers. Through their participation in the Science Collaborative, teachers gain opportunities to share their experiences with professional scientists and other teachers as well as develop a greater understanding of both scientific principles and teaching methods.

The Science Collaborative publishes a regular newsletter and proposals; reports describing the program are available from the San Francisco Education Fund. The San Francisco Education Fund publishes an *Annual Grants Report*, which describes all of its programs, and a

## San Francisco Science Collaborative - continued

"disseminator catalog," *Take an Idea and Go Creative*, which describes successful teacher-designed classroom projects.

### Contact Arrangement

For further information or referral, contact:

Bonnie Coffey-Smith
Project Director, Science Collaborative
Parkside Center, 2550 25th Avenue
San Francisco, CA 94116
(415) 731-6309

Amy Rodriguez Lee
Director of Program and Evaluation
(see above address)
(415) 512-1465

## Science Education Network for the Southeast

Georgia Southern Museum/Rosenwald Building
Georgia Southern University
Landrum Box 8061
Statesboro, GA 30460-8061
(912) 681-5444

### Introduction

The Science Education Network for the Southeast (SENSE) is an alliance of school systems, business and industry, and the Georgia Southern Museum, created to enrich science education in the elementary and middle schools of predominantly rural southeastern Georgia.

### Organizational Structure

Project SENSE was organized by the director of the Georgia Southern Museum where it is housed. The steering committee includes practicing scientists, academic scientists, and elementary science teachers. A separate evaluation committee assesses the impact of the project on the community.

### Partnership Programs and Projects

Project SENSE provides summer science workshops for teachers of grades K-8. These intensive two-week sessions give participating teachers knowledge about appropriate science content, use of hands-on science materials, instructional resources available to them, and activities to integrate science and mathematics in their teaching. The workshops are supplemented by science kits and interactive science exhibits available on loan from the Georgia Southern Museum during the school year. The museum also has a portable planetarium program which further enriches the science programs in these rural school systems.

Project SENSE keeps participants informed of its activities through the monthly publication, *Project SENSE Newsletter*.

### Contact Arrangement

For further information or referral, contact:

Delma E. Presley
Director, Georgia Southern Museum
(See above address)
(912) 681-5444

## Southern Education Foundation, Inc.

135 Auburn Avenue, N.E., Second Floor
Atlanta, GA 30303
(404) 523-0001

### Introduction

The Southern Education Foundation, Inc. (SEF) was created in 1937 from funds committed to improving education in the southern states. The principle purpose of SEF is to promote quality education of disadvantaged blacks and other Southerners.

### Organizational Structure

SEF is governed by a 12 member board of trustees which includes representatives from higher education, business, industry, public education, and government. It has an administrative staff and a team of consultants to develop and implement the SEF program.

### Partnership Programs and Projects

The SEF program is distributed into three categories, traditional interests, education and public policy, and program initiatives. In the traditional interest category, SEF grants have supported preschool programs for poor and minority children in several southern states. In the category of education and public policy, SEF support of the Consortium on Teacher Supply and Quality implements programs to increase recruitment and retention of minority teachers. For program initiatives, SEF supported the Fund for Rural Education Enhancement (FREE) to establish local education funds in rural communities to increase community involvement and support of public education.

SEF publishes a variety of publications. A brochure describing these publications is available on request. A quarterly newsletter, *SEF News*, is published for organizations, institutions, and individuals concerned with issues of educational equity and quality.

### Contact Arrangement

For further information or referral, contact:

Nathaniel Jackson
(see above address)
(404) 523-0001

## Southwest Michigan Math/Science Alliance

600 West Vine Street
Kalamazoo, MI 49008
(616) 384-5004

### Introduction

The Southwest Michigan Math/Science Alliance (SMMSA) is a coalition of individuals and organizations representing education, industry, government, scientific societies, foundations, and parents. The mission of the Alliance is to improve math/science education through the effective use of community resources. SMMSA promotes dialogue between people in education and those in other sectors of the community; stimulates public support for science education; and facilitates access to, and use of, available community resources for students, parents, and teachers.

### Organizational Structure

SMMSA is guided by a coordinating committee which includes representatives from most of its constituent groups. Since this alliance was formed in late 1990, its organizational structure is still in evolution.

### Partnership Programs and Projects

When this alliance was formed, a great number and variety of community-based programs designed to improve math/science education already existed. Therefore SMMSA is focusing its initial efforts on communication among those organizations providing services and between sponsoring organizations and the educational community.

SMMSA has published a directory of community resources for math/science education and distributed it to classroom teachers in southwestern Michigan. SMMSA periodically publishes a newsletter, *The Alliance*, to keep all segments of the region informed of activities in math/science education.

### Contact Arrangement

For further information or referral, contact:

Carol A. Klug
Chair, SMMSA Coordinating Committee
600 West Vine Street
Kalamazoo, MI 49008
(616) 384-5004

## Teachers Clearinghouse for Science and Society Education, Inc.

1 West 88th St.
New York, NY 10024
(212) 769-2990

### Introduction

The Teachers Clearinghouse for Science and Society Education, Inc. provides timely information in the science, technology and society (STS) field. It has established a worldwide network for disseminating STS materials.

### Organizational Structure

The Teachers Clearinghouse for Science and Society Education, Inc. is directed by three volunteer teachers from New York City's independent schools. It receives funding from several foundations to cover the cost of production of its materials.

### Partnership Programs and Projects

The Teachers Clearinghouse for Science and Society Education, Inc. publishes the *Teachers Clearinghouse for Science and Society Education Newsletter* three times a year and an annual single topic supplement. These are mailed on request to classroom science teachers all over the world free of charge.

### Contact Arrangement

For further information or referral, contact:

John L. Roeder
Cofounder and Director
c/o the Calhoun School
433 West End Avenue
New York, NY 10024
(212) 724-1980

To be added to the mailing list, contact:

Irma S. Jarcho
Cofounder and Director
c/o the Walden-Lincoln School
(see above address)
(212) 769-2990

## Texas Alliance for Science, Technology, and Mathematics Education

Center for Mathematics and Science Education
Texas A&M University
College Station, TX 77849
(409) 845-0825

### Introduction

The Texas Alliance for Science, Technology, and Mathematics Education is a statewide consortium dedicated to fostering public-private sector projects for the improvement of science, technology, and mathematics education. These projects target teachers as the number one priority, followed by students, administrators, the community, and the private sector, respectively. Participating organizations include business and industry, universities, government agencies, teachers, and foundations.

### Organizational Structure

The Alliance is governed by a 30 member action- and policy-oriented board of directors that has representatives from business/industry, science, engineering, and education.

### Partnership Programs and Projects

The Alliance programs and projects include conferences, a newsletter, clearinghouse of material on math and science partnerships, and teacher summer workshops. Current programs include: Science Teaching After Regular School, a hands-on science enrichment program offered at the elementary level; the Math Science Volunteer Project involving volunteer science and engineering professionals in a variety of activities such as career awareness, or consulting; and the Teacher-in-Industry Project, a summer intern program for math and science teachers of grades 7-12.

The Alliance publishes a quarterly newsletter, *Synergy*, which focuses on issues of importance to partnerships. This periodical keeps leaders in business, education, and organizations informed of Alliance activities.

### Contact Arrangement

For further information or referral, contact:

Robert K. James
Director
(see above address)
(409) 845-0825

Triangle
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# Member Organizations

## Science and Engineering

• Acoustical Society of America • American Association of Immunologists • American Astronomical Society • American Chemical Society • American Geological Institute • American Indian Science and Engineering Society (AISES) • American Institute of Biological Sciences • American Institute of Physics • American Medical Association • American Nuclear Society • American Physical Society • American Society for Biochemistry and Molecular Biology • American Society for Microbiology • American Society of Mechanical Engineers • Association for Women Geoscientists • Federation of American Societies for Experimental Biology • Federation of American Societies of Food Animal Sciences • Future Scientists and Engineers of America • Institute of Electrical and Electronics Engineers • Junior Engineering Technical Society, Inc. • National Association of Academies of Science • National Institute of Electromedical Information • The National Technical Association

## Business, Industry, and Labor

• Aerospace Industries Association of America, Inc. • Air Products and Chemicals, Inc. • Aluminum Company of America • Amoco Corporation • Apple Computer, Inc. • Atlantic Richfield Company • Bell Atlantic Company • The Boeing Company • Bristol-Myers Squibb • Chevron U.S.A., Inc. • CIBA-GEIGY Corporation • The Coca-Cola Company • Cray Research, Inc. • Dow Chemical Company • E.I. DuPont de Nemours and Company • Edison Electric Institute • Electronic Data Systems Corporation • Ford Motor Company • General Electric Company • Geo. J. Ball, Inc. • Goodyear Tire & Rubber Company • Hercules Incorporated • Hoechst Celanese Corporation • Hewlett-Packard Company • ICI Americas Inc. • International Business Machines Corporation • Jostens Learning Corporation • Merck and Company, Inc. • National Executive Service Corps • NYNEX Corporation • OMNI Magazine • Phillips Petroleum Company • Procter & Gamble Company • Research Corporation • S.C. Johnson & Son, Inc. • Schering-Plough Corporation • Shell Oil Company Foundation • Southwestern Bell Telephone Company • SRC Competitiveness Foundation • Texaco Inc. • U.S. Chamber of Commerce • United Auto Workers

## Education

• Alliance for Environmental Education • American Association of University Women Educational Foundation • American Association for Higher Education • American Association of Physics Teachers • American Federation of Teachers • Association for Supervision and Curriculum Development • Association for the Education of Teachers in Science • Association of Science-Technology Centers • Center for Applied Linguistics • Council for Basic Education • Council for Elementary Science International • Council of Chief State School Officers • Council of State Science Supervisors • International Society for Technology in Education • International Technology Education Association • National Action Council for Minorities in Engineering, Inc. • National Association for Research in Science Teaching • National Association for Science, Technology & Society • National Association of Biology Teachers • National Association of Geology Teachers • National Business Education Alliance • National Council of Teachers of Mathematics • National Earth Science Teachers Association • National Education Association • National Energy Foundation • National Science Supervisors Association • National Science Teachers Association • Oak Ridge Associated Universities • PBS Elementary/

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# Member Organizations, Continued

Secondary Service • Scholastic Inc. • School Science and Mathematics Association • Science Olympiad • Science Service, Inc. • Science Works • Technical Education Research Centers

## Affiliated Organizations

• National Aeronautics and Space Administration • National Museum of Natural History, Office of Education • U.S. Department of Energy • U.S. Geological Survey

## Affiliated Local Alliances

• Academic/Industrial Teachers Internship Program • Academy of Science of St. Louis • Ad Hoc Mathematics, Science and Technology Committee • Arizona Alliance for Mathematics, Science and Technology Education • Biology Interaction Group/Partnership in Education • Boston University School of Medicine • Business Education Success Team • Business-Education Compact of Washington County • Center of Excellence for the Enrichment of Math/Science Education • Center of Excellence in Mathematics and Science Education • Cleveland Education Fund • Coalition for Excellence in Science & Math Education •Coalition for Excellence in Science & Technology • Collaborative Project for Science Education • Colorado Alliance for Science • Colorado Education Association Business Alliance • Commonwealth Elementary Science Teaching Alliance • Consortium for Educational Equity • Corridor Partnership for Excellence in Education • Dayton-Montgomery County Public Education Fund Math Collaborative • East Central Illinois Partnership for Excellence in Education, Inc. • Fellows for the Advancement of Mathematics and Science • Florida Alliance for Technological Education • Friends of Fermilab • Georgia Industrial Fellowships for Teachers • Georgia Youth Science & Technology Center, Inc. • Hands-on-Science Outreach, Inc. • Hartford Alliance for Mathematics and Science Education •Indiana Corporation for Science and Technology • Industry Initiatives for Science and Math Education • Iowa Alliance for Science, Mathematics and Technology • Laboratory Equipment Assistance Program • Lesley College Center for Mathematics, Science, and Technology in Education • Los Angeles Educational Partnership • Mathematics and Science Center • Mid-America Consortium for Engineering and Science Achievement • Midlands Consortium Star Schools Project • Missouri Alliance for Science, Math, and Technology Education • Nevada Institute for Science & Cultural Literacy • New Horizons Technical Center • New Jersey Business/Industry/Science Education Consortium • New York Science, Technology and Society Education Project • North Carolina Science and Mathematics Alliance • Ohio Academy of Science • PATHS/PRISM • Pan-Educational Institute (Sharenet) • Partnerships for Progress-Bridge Program • Partners for Terrific Science • Pittsburgh Regional Center for Science Teachers • Prince George's County Public Schools • Project SMART Private Sector Partnership for Science Education • Project Partners • Project to Redesign the Instruction of Science/Math • Research Apprenticeships in Science Program • San Francisco Education Fund • Science Alliance-Alaska • Science Alliance-Delaware • Science Education Network for the Southeast • Science Pioneers • Sharing Science Academic Alliance• Southern Education Foundation, Inc.• Southwest Michigan Math and Science Alliance • St. Louis Regional Science and Technology Career Access Center • Teachers Clearinghouse for Science and Society Education, Inc. • Texas Alliance for Science, Technology, and Mathematics Education • UTSA /Alliance for Education • World of Wonderment, Inc.

July 22, 1991

# NOTES